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Political Economy.

[For the Northern Light.]

COTTON STATISTICS.

BY HENRY WHITING.

EGYPTIAN, Greek, nor Roman ever knew
That such a plant as *cotton* grew;
Or, if 'twere known,
'Twas only as a common, useless weed,
Which idly sprung up, flourish'd, went to seed,
By no one sown.

The eastern ladies grew it, spun, and wove;
But, wanting "gins," and steam their looms to move,
The trade was small.
Their bales, torn up as rags among mankind,
Would scarcely serve its bleeding wounds to bind,
Muslins and all.

A century since 'twas thus. The distaff, and
The shuttle, nimbly thrown from hand to hand,
Exhausted art.
Spindle and power-loom their race began
When England brought to light those "*Wright's* of man,"
Her *Ark*, and *Cart*.*

What now? Why, take the thread by England spun
In one short year, and to and from the sun,
In course sublime,
Trail it through spheres of planet bright and star,
'Twould stretch, still stretch, through all those journies far
The *fiftieth*† time.

Or, take the web her looms, of giant strength,
In the same time send out—what is its length?
As girdle bound,
'Twould span the earth's enormous waist,
Where longitude its longest line has trac'd,
Ten times† around.

And are these webs, which thus could swathe the globe,
Sent out that man alone may be inrob'd?
'Tis even so.
It is the age of cotton. Fold on fold
Of its smooth texture clothes the young and old,
The high and low.

And whence the *raw material* which supplies
These countless spindles? Which forever plies
These giant looms?
From the warm South. 'Tis there the genial earth
With cotton teems—'tis there it springs to birth—
'Tis there it blooms.

But 'tis not England only that uplifts
The age with steam. That Power with empire shifts.
New-England long
Has felt the mighty impulse. Soon will she
Weave for the world—old England's rival be,
As rich, as strong.

Then let the North and South in Union live,
Nature and art to this their sanction give,
Join'd hand to hand,
Producers and consumers, mingled, claim
A common parentage, a common fame,
A common land.

Pilatka, East Florida, July, 1841.

*Sir Richard Arkwright invented the *spindle*; the Rev. Edmund Cartwright invented the *power-loom*.

† These are not poetical fictions, but mathematical calculations; a part of statistical records, which have been published.

[For the Northern Light.]

THE TRUE POLICY OF THE U. STATES.

BY D. B. STOCKHOLM.

As it regards other nations, our policy is pacific. All we ask of them is to be left in the undisturbed enjoyment of our own rights, and an exchange of surpluses on terms of equality. The true domestic policy of the United States would seem to be too clear to admit of a doubt, and yet our statesmen differ concerning it. Let us take a brief view of the country, its situation and resources, and it is believed it can, without difficulty, be discovered.

A mere glance at the map of the United States, with a very imperfect knowledge of the country, must satisfy the most careless observer that nature intended this great nation, for an agricultural, a manufacturing and a commercial people.

Our line of sea coast is indented by the finest of harbors: long, deep, broad, noble rivers, extend their gigantic arms far into the interior, of one of the most fertile countries upon the globe, capable of producing in the greatest abundance all the necessaries and comforts, and many of the luxuries of life, with comparatively little labor: and this highly favored region is possessed by the most intelligent, ingenious and enterprising nation in the world.

Its great staples are wheat, rye, corn and other coarse grain, wool, beef, pork, rice, cotton and tobacco—all of which except the three last named articles, are virtually excluded from the markets of Europe.

Can it then be the true policy of such a nation under such circumstances, to export its raw material, and resort to the work-shops of Europe for many of the prime articles of necessity?

The domestic policy of the United States would seem to be so plain, that thinking men of sense and intelligence could not differ concerning it, if they would banish sectional feelings, break the trammels of prejudice, and not forget that they are the citizens of a great nation.

It is clearly the true policy of the United States to make the most of its ample means, to develope its immense resources, to foster agriculture manufacturers and commerce, to occupy the whole of its territories, and to place the country in such a state of defence, as to secure it against insult and aggression.

The Southern policy or rather that of a few of her politicians is to export the raw material and to purchase of such other nations as will afford them at the lowest price, such articles of necessity or of luxury as we may require.

Such a policy would prove ruinous to the people of the grain-growing regions (about two-thirds of the freemen of the United States)and it may well be doubted whether it would not in the end prove ruinous to the South also.

It would certainly deprive them of a home market for their cotton—and the policy of England is to render herself independent of the United States for this article so essential to her prosperity. At great expense she is at this hour making experiments to ascertain if it cannot be advantageously produced in India. She will stimulate an increased production in Brazil, and she will also hold out to Texas every inducement to extend its cultivation as far as possible.

Her prosperity greatly depends upon obtaining an ample supply of this important material at the cheapest rate, and although it will in the end prove injurious to the planters of the south, we cannot withhold our admiration of the wisdom of their policy.

Her statesmen are able, far-sighted, and in this repect, they leave far in the rear those of the United States. Party politics engross too much of the time and attention of the latter. In the contest for power, the true interests of the country are too often forgotten. This is greatly to be regretted, for the prosperity and glory of this great nation call for the indefatigable labors of many statesmen of enlarged views with talents of the first order.

The policy of manufacturing for ourselves articles of necessity, can no longer be a subject for discussion in the United States. A large portion of our population are already extensively engaged in the business, an immense capital is already invested, which is daily increasing, and the agricultural interest of the grain-growing districts, if of no other, requires its successful prosecution, to afford them a market for their surplus staples.

The fiat has gone forth—the great question of domestic manufactures with the people of the Northern, Middle and Western States is settled. They have resolved to manufacture, and they will manufacture for themselves, most of the articles necessary for their convenience and comfort.

The merchant may import foreign fabrics as heretofore. Our seaports may be flooded with "THE SWEEPINGS" of the English factories; but the day is not far distant when they will be compelled to look to the South for a market. In other sections they will not find purchasers.

This is not a hasty determination of the people of the grain-growing regions. It is the wise result of cool deliberation, and of calm reflection.

When the farmer finds his great staples commanding in the market less than the cost of production, in consequence of the systematic policy of the European nations, he is from necessity compelled to create a home market, and the interest of the rest of the population is so intimately connected, so interwoven with his, that they will willingly lend their aid to secure the common prosperity.

The long wars in Europe afforded him a good temporary market for his productions. But wars could not last forever; and experience has taught him that the home market is the only steady and safe one.

He will not consent to consume the commodities of those nations which refuse to receive his surpluses in exchange, and he is right. The people of the South, even at this day, are greatly indebted for their prosperity to the cotton manufacturers of the Northern and Middle States; and a just liberality on their part, will secure to them forever a valuable home market for the mass of their great staple.

The true interest of the South is inseparable from those of the other states. We shall soon need all the cotton they ought to produce at a fair price. Without the aid of domestic manufactures they will be unable to compete with the other states in the race of prosperity, and time, the touchstone, will prove the correctness of the remark.

Let the sober, reflecting people of that section ask themselves what they would be without the other states. Let them ask themselves what would be the condition of the people of the other states without a home market.

What is the true policy which shall permanently advance the the interest of the whole nation, in the present state of the civilized world? It clearly consists in causing the three great interests—agriculture, manufactures and commerce—to flourish in the U. States. The extent of our sea-board—the magnitude of the Lakes which separate us from the territories of a powerful, a warlike snd grasping nation—and the importance of the country which belongs to us, west of the Rocky Mountains, point out the necessity of a respectable navy, an augmentation of the army, and a chain of military posts from the Missouri to the mouth of the Columbia; to say nothing of strong works at other important points in other parts of the country.

Many of our politicians are great sticklers for what they please to term national economy, which in their opinion, consists in the least possible expenditure on the part of the government. National economy is commendable, but let us not forget that with us it is the economy of a great nation, possessed of a country of great extent and of vast resources, which we are called upon to protect and defend. The Oregon Territory is ours—its occupation is necessary for the defence of the Western States, and it should be speedily settled by a hardy and brave population, with a sufficiency of troops to protect them. True national economy consists in providing in season the necessary MEANS for the attainment of important ends, far more than in saving to the people, for the time being, a few millions of dollars.

If such an economy had been practised prior to the last war, it would have saved to the nation thousands of her citizens, and tens of millions of treasure.

We are now a great nation; and aspire to become if not the greatest, certainly one of the greatest nations in the world, and we must prepare to support the character of a great nation.

The people are too intelligent to be ignorant of this, and too patriotic to refuse to the government the necessary means to enable it to place the national security on a foundation that cannot be moved by other powers.

To ensure this, an enlarged, a liberal, and an enlightened policy must be pursued. It is the true policy of the United States; and it will be pursued by an intelligent and patriotic people.

Ithaca, July, 1841.

CONNEXION OF RELIGION WITH INDUSTRY.

[Extract from a Sermon delivered at St. Peters' Church, Albany, on the occasion of the national fast, on the 14th of May, 1841.]

BY REV. HORATIO POTTER.

AGAIN, without religion, there would be no regular and properly directed industry—a thing essential alike to national happiness and to national wealth. Consider the devices for acquiring property rapidly, which, in our own country and within a few years, have been substituted in the place of regular industry; they consist, like the operations of the gambling-house, in merely passing property or its representative, from one person to another—a process by which it is quite obvious that no increase of value can be effected, no national wealth can be produced. I speak not now, of course, of those necessary exchanges, by which the products of labor are transferred from place to place and distributed—but of those other exchanges in which the cunning, or the visionary and adventurous, hope to get gain, without industry, without expenditure of time or effort, from ignorance and credulity, or from casual and uncertain changes. Such devices are highly prejudicial, both to the prosperity and to the virtue and happiness of a people. Instead of increasing national wealth, they diminish it; because just in proportion as men are led to entertain the hope of acquiring property rapidly and easily, will they become discontented with moderate gains, and abandon the pursuits of regular industry. A few cunning or fortunate individuals may succeed in attaining their object; even they, however, will generally be injured by their success. Sudden acquisitions of property can be attended by nothing like that progressive developement and discipline of character, which result from continuous efforts and gradual accumulations, and which are all important to prepare the individual for the right use of his possessions.—Coming unexpectedly, they find the habits unprepared. They excite the passions, unsettle established notions, disturb the balance of the character, and not unfrequently bring ruin where they were looked upon as conferring the greatest advantages. But while a few individuals succeed in amassing large possessions from these adventurous enterprises, the multitude fail, and fail miserably. They have turned aside from their ordinary pursuits: they have suspended or utterly abandoned those efforts by which their wants had been supplied, and the national wealth increased: their passions have been excited, their hopes high; their expenditures and engagements large in proportion, not to their means, but to their expectations: and, at length, the bubble bursts, and all their schemes end in disappointment and ruin; they and their friends and the country have lost much and gained nothing. Injustice and wrong have been committed and suffered; while character and happiness experience a shock, from which it is not unfrequently impossible for them to recover.

I say nothing of the different theories proposed by opposite parties to account for the embarrassments, under which individuals and the country are suffering. I will accept almost any theory that a reasonable person will venture to suggest; and then, pointing to the spirit, in which the enterprises just referred to have been conducted—to the principles, which have entered into our commerce, and controlled not a few of our moneyed institutions—the "making haste to get rich," the eagerness and recklessness, the improvidence, the unscrupulous use of the property of others, and the wide-spread extravagance—I would ask, what mean distress and ruin and failure, not merely of public but of private confidence also? What mean these things in such a country as ours, where Providence lavishes her bounties without stint, where education is disseminated among all classes, and where all are under the protection of just and equal laws? Let it be granted that we have been placed in circumstances of great temptation—that the rapid and legitimate increase in the value of real property in many parts of our country, together with the dangerous facility with which credit was proffered to all sorts of adventurers, did much to excite the cupidity of our people, and to hurry them into enterprises alike ruinous and wicked. But who can doubt that, in spite of every temptation, most of these evils would have been prevented, had religious principle exercised a proper control over the public mind, and, especially, had the heart of the nation, had the character of its people been distinguished by the temperance, the christian moderation, the severe sense of justice, the self-distrust, the elevated views of human dignity and happiness, and the contentment, which spring from a Heaven-descended gospel!

[For the Northern Light.]

THE TARIFF.

BY SAMUEL WILLIAMS.

No nation has ever attained eminence in the world for high civilization and refinement, without first becoming to a very considerable extent a manufacturing nation. To attain this end, every government has found it indispensable to foster the incipient efforts of its artisans and manufacturers, either by bounty on the article produced, or a protective tariff on like articles imported from without. In France, all attempts at the successful introduction and culture of silk failed, until Henry the 4th extended the patronage of the crown to promote its growth and manufacture. Louis the 14th not only gave large bounties, but he sent agents to Florence to procure looms, machinery, and workmen, in order to domesticate the *occult* art in his own kingdom; the result is that the silk manufactures of France have grown up under the fostering hand of government, aided always by competition and cheap living, into a maturity and cheapness which defy all competition from abroad. In fact, her annual export of silk goods alone amounts at this time to nearly 26,000,000 of dollars, which is supposed not to be more than one-sixth part of the home consumption of like articles.

England, although ostensibly a commercial nation, has always found it for her interest to foster and protect her manufacturing industry. By this policy alone, she has been enabled not only to supply her enormous home trade, but also, until within the past few years, to make most other nations tributary to her, for the most common fabrics. By far the greatest element in her foreign trade, is the products of her forges and her workshops. It is to *these* that our own beloved country can trace the greatest part of its foreign indebtedness. It was from the manufactures of Birmingham and Manchester that the South American Republics received their loans, not in coin, but in the poorest of manufactured articles. It is to the cotton manufactures of England that British India, with its countless number of industrious poor, owes the ruin of hers.

Germany, Poland and Russia, for a series of years, were content with the exchange of their lumber and agricultural productions with England, for her manufactured articles, and colonial productions. But the effect of the British corn-laws and her discriminating duty in favor of Canadian timber, have, at length, induced the German States to unite in fostering a system of manufacturing industry, which promises under German economy, even with a moderate protection, to give to the German States that wealth and importance as a manufacturing people, they have never before enjoyed. It is now supposed by many intelligent political economists, that we have more to fear from the competition of Germany, in the article of woollen cloths, than from England, who, under her high taxes, and expensive living, will continue to be less and less an exporting nation. In fact, it is predicted, that if her corn-laws are continued, she must depend mainly on that enormous home trade, which the tax on foreign corn alone enables her great and wealthy landed interest to sustain. The present home trade of England is computed at 400,000,000 sterling, while the whole amount of her foreign trade is set down at about one-seventh part of that amount. If little commercial England is thus so dependent on her home trade as to be compelled to keep in force her onerous corn-laws in order to enable her to maintain it, ought not the United States, with her widely extended territory, varied productions, and other stupendous advantages, to see the importance of building up a home trade, by judicious protection and encouragement?

It has always been the policy of England to create a foreign trade, based on such productions as yield the greatest amount of profit, and employ the greatest number of her people at home; hence her agricultural productions are now almost entirely used in her home consumption. The wools of Germany and Turkey, the raw cotton of Brazil and the United States, she receives free from duty; in order not only to stimulate foreign trade, but to aid her manufacturing industry in monopolizing the foreign market. Of late it would seem that the English manufacturers are fast losing the foreign market for their fabrics, owing to the cheaper productions of other nations; hence the loud complaints of the tax on labor inflicted by the corn-laws. But should they be repealed, would not England lose more by the inability of her great tax paying landed interest to consume, than she would gain by an accession to her foreign trade? The affirmative of this question is maintained by some of the wisest heads and purest hearts in England; even Lord John Russell, with his syren speeches in favor of free trade, is more than suspected of insincerity. What is it that has enabled England to bear her stupendous national debt, but a system of home production, a mutual domestic dependence, of agriculture on manufactures, and vice versa, systematically encouraged and protected, to the exclusion of every thing from abroad that could be produced at home, excepting always the raw material employed in manufactures?.

We are aware that in climate and agricultural productions there is only a partial analogy between England and the United States, and that our great agricultural staple, cotton is, and ought to be to a certain extent, essentially an article of free trade. But should the cotton growing States attempt to regulate the import trade of all the rest? Is not their great trade in cotton with New-England and the other non-cotton growing States as beneficial to the South as to the North and West? Why then should the all consuming free States be compelled to sustain an impoverishing importation of foreign luxuries, solely to encourage an extra export of cotton at the south?

But so far from pursuing the policy of England in relation to protecting home manufactures, our government imposes a prohibitory duty on foreign cotton, and on fine foreign wools, while in the year 1839, we admitted free of duty from France alone, articles to the amount of $32,124,405, nearly one-half of which were manufactured silk goods. If this is not unwisely supporting a free importation of manufactured articles, for the benefit of cotton, we know not what it is.

The friends of free trade in the United States promise the grain growers of the north and west a good market for their surplus, if the British corn-laws are repealed. This boon might be to some extent realized, if Germany, Poland, and Russia had not their granaries at all times full of corn, ready to avail themselves of every foreign market. In 1837 even the United States imported several hundred thousand bushels of wheat and rye from Germany for our own consumption, paying an import duty on the wheat to our own custom house of 25 cents per bushel, which duty, like the English tax on foreign corn, still continues to act as a *protection* to our own *wheat growers;* without this duty, wheat would often be imported into the United States. Now then, can our farmers hope to compete with Europe for the supply of corn to Great Britain?

But suppose that the United States had the sole privilege of supplying England with all the grain she needs from abroad, what would it amount to, compared with the quantity grown and consumed in the United Kingdom? It is computed that for 25 years previous to 1825, all the foreign corn imported into England did not amount to more than one week's supply. Since then, in 1831, a year of short crops, the imported grains amounted to 3,500,000 quarters, only 25 days' consumption, and only one-seventh part of this quantity, or three and a half days' supply was received from the United States of America.

Let us no longer then, act under the fatal delusion that the repeal of the British corn-laws is to bring back high prices for our bread stuffs. If we mistake not, a contrary effect will be produced. The vast amount of capital now employed in British agriculture, will then in part be withdrawn and employed in manufactures; the agricultural interest of England, unable to consume, the great home trade will lose its best support; manufacturing will increase; the low price of bread will induce low wages and cheap production. The United States will then be flooded more than ever with English fabrics at reduced prices. Our foreign export of manufactured goods must cease, as England will then be enabled to drive us out of the foreign market; and "what shall we gain in the end thereof?" a free export of grain to England when her crops are short, (if we reason from the past,) equal to three and a half days' supply of the nation.

What is the advantage of this export of bread stuffs compared to our great home market, the greatest element of which is our manufacturing industry? It should be the policy of the grain grower, the wool grower, and the cotton grower, to look to the interest of the manufacturer as inseparable from their own, the one being incidental to and dependent on the other. The friends of exclusive free trade might then save themselves much of that virtuous indignation against the corn-laws of England, the repeal of which, we repeat, would only be the precursor of mischief to our own manufacturing industry, that great consuming class, second only to the agricultural in importance, and of paramount importance to a state of refined civilization.

It is not our purpose, in order to sustain our manufacturing interests, to advocate any measures of protection, which will conflict with a liberal construction of our compromise law. Far be it from us to act in common with the friends of a high protective tariff, and other projects of inflation, in charging to

the past operation of that law, any part of the pecuniary evils which have come upon the country within the last few years. We believe that the excessive imports of 1836 may be referred to that stimulus which was induced by the high price of cotton, the increase of banking, and the consequent speculations and extravagance of the people, rather than to the trifling annual reduction of duty on imports required by that law; nor do we believe that the minimum duty which take place under the law in 1842, will operate disastrously to any of the leading branches of domestic industry. The cash duty and home appraisment which then takes place, will be better than a higher duty with the credit of six months and a valuation by the foreign invoice. Still we think that the reduction of duty on imports is in some instances too great, and that the compromise act should be so revived as to give an adequate revenue for the support of government, with such administration as will give incidental protection to all our manufacturing interests. It has been wisely said, that to sustain the importing policy, "those who import must be able to consume." As it is, the free states which consume the greater portion of silk goods, should they not be aided and encouraged in making their own silks, since they cannot grow the cotton to exchange for them? It is said by the cotton growers themselves, that more cotton is now produced than can be profitably sold; hence the necessity of adopting at the south a greater diversity of production, including more especially the culture of silk, in order that the prosperity of the north and the south may be more identical.

It is urged by the advocates of the importing policy at the south, or, as they in rather too much pride of spirit style themselves, the "*exporting interest*," that the foreign trade is sacrificed in proportion as our home trade is encouraged. In disproving this assertion by the facts, we readily admit that New-York alone employs $48,000,000 of capital in the foreign trade; but by refering to the tables, we shall find that a large portion of this trade is based on the exchange of American manufactures with foreign nations for their staples, and also by the transhipment and sale of foreign productions entitled to debenture. The hides of South America are taken in exchange for our manufactures; those hides are tanned and made into boots and shoes in the United States, and again returned for sale to nearly all the tropical regions of the earth, and to all the parts of North and South America, to say nothing of our daily export of articles manufactured in the United States from cotton, wool, iron, &c. of our own producing. Such has been the effect of protection to our cotton manufactures, that they now form a very considerable item in our foreign trade; by it they have been enabled successfully to compete with English cottons in the foreign market.

Let us then no longer complain of the effect of the British corn-laws on the trade of the United States, since that effect is to enable our own manufactures to compete with England for our share of the foreign trade, while they, of course, enjoy at home an immunity from the bearding effects of British intrusions. Let the compromise act be still a tariff for revenue, but so modified as to act incidentally for protection to those branches of domestic industry that most require it; then will the home trade of the country, based on the diversified productions of our extended territory, make all classes of producers dependent on each other, but as a national whole, independent and free. *Waterloo, July 19th*, 1841.

[For the Northern Light.]

EDUCATION.

BY CHARLES H. FORBES.

It is the duty of a community to do what it can, impartially, for the advancement of the welfare of its members. Hence the neglect of education is a neglect of duty on the part of the state. Education is a matter of public concern, although it has been generally left to take care of itself, as an object of private enterprise. It is for the interest of the whole community, that each of its members should be well educated, and education is therefore as much within the public care as the public health or defence. To improve each member of the state by education would be the simplest, surest and cheapest method of advancing the peace, protection and happiness of all. When education is neglected by the state and left to private management, its benefits are attainable only by the rich. The poor, who compose the numerical mass, remain unimproved, and feebly and ignorantly struggle through life, the prey of weakness, error and incapacity, compelled to regard, with slavish reverence, those whom fortune has thus elevated above them, and to bear the penalty of transgressions into which they have been betrayed, through weakness, ignorance, want and temptation. The state ought to be the enlightened parental protector of all its members, without any needless constraint of individual liberty, and without suffering its protection to have a partial operation. It is not enough, merely to afford the means of education to those who choose to avail themselves of the opportunity offered. The state should see that every member is subjected to the process of education.

The ordinary methods of education are imperfect and insufficient. They are not founded on a clear and philosophical knowledge of the objects to be attained, and the most direct ways of attaining them. Much time is needlessly consumed in unskilful method sof study; habits of indolence and indecision are formed, and little progress is effected in the attainment of the real objects of education. The defects in the present system are, the want of uniformity, the want of scientific method, and the want of discipline. Discipline, indeed, is almost entirely neglected, or its benefits are to be attained, only by an indirect process in the course of study. A particular subdivision or branch of subject is taken up, and studied in its details, chiefly through the exercise of the memory, without any general knowledge of the main subject to which it belongs. This is a needless consumption of labor and time. The mind, in seeking by its unaided efforts, a knowledge of an unknown subject, is frequently obliged to proceed from particular facts to general principles, or by the analytic method, as it is called; but the shortest and most convenient method of acquiring knowledge which has already been explored and reduced to scientific arrangement, is the reverse of this, or the synthetic process. This tends to simplify the subject at the outset, disrobes it of mystery, prevents confusion of ideas, greatly aids the memory, and conduces to clearness of conception.

The ultimate object of education, is to qualify the pupil for the business of life, which is to think, to speak, and to act. To think justly and promptly, to express the thoughts clearly, fully, accurately and easily, in speaking and writing, and to act with energy and constancy in obedience to the convictions of the mind.

The immediate objects of education, are to discipline and to inform.

Discipline is the exercise of the several faculties and capacities of the mind and body, namely, the physical, the moral, and the intellectual, with a view to invigorating and improving them. The faculties should be exercised evenly, so as to be developed and strengthened in a uniform manner, as far as circumstances may permit. The modes and uses of discipline are pointed out by judgment and experience. They may be:

1. Committing to memory select passages of standard authors.
2. Declamation and oratory.
3. Criticism of select passages in books.
4. The acquisition of knowledge by means of scientific study.
5. Extemporaneous speaking on a given topic, in the various forms of debate, remark and conversation.
6. The delivery of lectures.
7. Gymnastic exercises, accomplishments and diversions.
8. Military discipline.
9. Music, vocal and instrumental.
10. Drawing and painting.
11. Intellectual games and amusements.
12. Free conversation on men, measures, and things. Free intercourse in society, and active participation in passing affairs, accompanied with constant habits of methodical reflection.

These and other modes of discipline may be adapted to the different circumstances of age, sex, destination in life, character of the mind, or bodily constitution.

Information is the imparting of knowledge. Knowledge methodically and scientifically arranged, is called science. Knowledge may be thus scientifically classified. The arrangement does not pretend to perfect accuracy, but is only given in the hope that the idea may be improved and rendered useful.

Exact science. Founded on pure mathematical reasoning, treating of:

Quantity, where it is called Algebra.
Extension, " " " Geometry.
Number, " " " Arithmetic.
Force, Attraction, Motion, Duration, &c. } Dynamics, Mechanics, Hydrostatics, &c.

Natural science. Founded on mathematical reasoning, applied to observed facts in the material universe, treating of the various forms and properties of matter.

Light—optics, colors, &c.
Electricity—magnetism, galvanism, &c.
Caloric.
The Universe—astronomy.
The Earth—geography, geology, mineralogy, vegetable life, botany, animal life, zoology, chemistry, medicine, &c.
The atmosphere—the properties of sound, acoustics, harmony, music.

Moral science Founded on moral reasoning, applied to observed facts.

Cause and effect—intelligence, instinct, feeling, sensation, mind, consciousness, memory, reason, conscience.

Logic.
Man in a state of nature—natural rights and duties.
Man in a social state—his rights and duties as a member of society, moral philosophy, ethics.
Government—law, political economy.

Lingual science. The natural expression of the thoughts and feelings, the philosophy of the voice and of speech, the structure of language, the causes which produce variety in language, the several varieties of language.

Grammar—rhetoric.

Historical science. History is a record of events.
History of mankind. This includes a history of civilization and other arts, and of government.
History of the several races of men—history of the several communities or nations which have existed in the world.
Ancient history, modern history, chronology.

The acquisition of knowledge is not necessarily painful and unpleasant, but on the contrary, the mind is naturally disposed to seek knowledge. The pain and aversion which is frequently experienced in the course of instruction, arises from the violence which is done to nature in the modes, by which it is sometimes attempted to impart knowledge. This happens when ideas are crowded into the mind in a confused and rapid manner; when the mind is not permitted to become familiarized to newly acquired ideas before attempting to embrace more; and when the mind is filled with a multitude of particular facts having no apparent order or connexion. Facts should therefore be classified in scientific order as far as possible, before submitting them to the mind of a pupil; and though perfect scientific arrangement can only be founded upon a clear and full acquaintance with the subject, or series of facts to be arranged, yet we may always approximate to it with advantage.

Experience and reflection suggest the following methods of imparting information, as the most successful.

1. Pupils to be examined and exercised in classes, but preparation to be made singly and separately.

Sympathy creates interest in the subject of study. Pupils improve by observing each other's faults and excellencies. The several views taken of the same subject by different minds give a fuller idea of the subject. The habit of exposing the thoughts in a public manner, gives confidence to the mind, corrects erroneous impressions, and conduces to accuracy and decision of thought. Preparation should be made singly, for this requires cool and collected examination and reflection.

2. A text book containing a good scientific arrangement of the subject of study to be used. The use of this is to furnish a guide or clue to the subject. It is not of itself sufficient to impart a full knowledge of the subject. It is the skeleton on which the body of knowledge is to grow. It preserves the unity and identity of the subject.

3. A knowledge of the subject to be imparted by means of the synthetic process, (whenever it can be adopted,) commencing with a comprehensive view of the whole subject, and thence proceeding through natural divisions and subdivisions to specific facts, as far as may be necessary. The method of instruction to be familiar lectures and conversation, accompanied with interrogation and illustration.

4. The subject to be dwelt upon until exhausted and fully understood, as far as it is designed to progress.

5. The examination of each subject to be accompanied with original essays, disquisitions, and discussions, connected with the immediate subject of study, a reference to the writings of authors on the same subject, and such other convenient methods of awakening interest and inquiry, and illustrating the subject as may present themselves.

6. The instructor should be familiar with the mind, and the actual attainment of each pupil, and should not permit any pupil to quit a subject with vague and superficial ideas of it.

7. If a pupil fall behind his class, he should be sustained by special or private instruction, or he should be permitted to join a lower class.

8. In imparting knowledge, no attempt should be made to inculcate mere opinions, however just they may be deemed to be. The formation of opinion should be left sacredly untrammeled. Let knowledge be faithfully communicated, and then leave each individual mind to deduce its own conclusions. The freedom of the mind is more valuable than the most finished education without it.

9. Artificial rewards and punishments to be dispensed with; though the relative and actual attainment of each pupil should be carefully observed and determined from time to time, and his standing publicly made known; not with a view to excite emulation (for merely to excel others should not be the object of study,) but to enable each pupil to appear in an honest position, and to know the exact reach of his own powers. Castigation, or other personal violence should in no case be resorted to. The mind should not be addressed through the degrading passions of fear, or cupidity. Additional study is sometimes imposed as a punishment; but this is injudicious, for the acquisition of knowledge, or the improvement of the faculties should be considered a pleasure and not a punishment.

The common school system, though useful as far as it goes, is insufficient. If it be urged that a more perfect system would be attended with greatly increased expense, it is answered that the subject is of so much consequence, as to warrant all the additional expense that may be necessary, but it is contended that the expense need not be greatly, if at all, increased. The state could dispense with the entire militia system with less detriment than it now sustains through the want of an efficient and thorough system of public education. The former, indeed, might perhaps be advantageously merged in the latter, and all the ends of the militia system fully and more successfully attained by incorporating it in a well organized plan of general education.

New-York, July, 1841.

Agriculture.

CORN-LAWS.

BY JOHN A. DIX.

"Thou shalt not muzzle the ox that treadeth out the corn." Deut. xxv. 4.

The spirit of the Divine command, which we have borrowed from the Mosaic law, and which was designed to enjoin upon mankind a tender regard to the wants, even of the brutes that minister to our comfort, may, if rightly considered, teach us a lesson of political wisdom of the greatest value. Providence has placed us upon a theatre of vast extent, but infinitely diversified in its physical character and capacities. Of the numerous political allotments into which the earth, in the progress of human empire, has become divided, there are few, which are precisely similar in the leading characteristics of climate and soil. Its great natural divisions, marked out by rivers, ranges of mountains, and intervening seas, present peculiarities equally numerous and as strongly marked. In a large and enlightened view of the subject, it is difficult to resist the conviction, that the Creator designed this great diversity of surface as a prolific source of comfort and happiness to our race, endowing no single region with the capacities of all, but creating a mutual dependence, which we may cast off, if we please, but inevitably at the sacrifice of our own good.

In the obliquity of their judgment, and their proneness to narrow views of self-interest, men have been perpetually warring against this beneficent arrangement of Providence—constantly entrenching themselves with restrictions designed for the promotion of their own exclusive benefit to the prejudice of that of others, but, in truth, disadvantageous to both. We cannot hope to see, for many years at least, this system of exclusion give place to better views of our character, our duties, and our true welfare. The history of mankind must furnish some striking examples of its evil tendency, before we shall see it leveled with the dust, and a more philanthropic code of international intercourse rising from its ruins. And yet there is abundant cause for encouragement in the fact that, in the discussions now in progress in our own country, in respect to the regulation of the impost system—a country, to whose legislation all eyes are turned for examples of liberality and political wisdom—prohibitions and measures of exclusion are no longer spoken of as consonant with true policy, but most of those who advocate the doctrine of imposing duties on foreign imports, for the purpose of protection, ask only such a moderate tariff as is necessary for revenue—a measure on which almost all classes of thinkers are united. This improved state of public opinion cannot but have its influence on other communities, and lead to relaxations of their restrictive systems, of which we must, in turn, feel the beneficial effects.

We confess it is not without surprise that we see, as we often do, the example of Great Britain referred to, as worthy of imitation in respect to the prohibitory measures, which she has enforced against other nations. We look at her immense wealth, her great power of production, and her extended empire, and fancy that if we follow in her footsteps, we may reap the same golden fruits. But let us appeal to our own breasts, and say whether we would take all her riches and her power, if we must take with them the poverty and wretchedness, which fill the habitations of her people. Let us not be deceived by the false exterior, which she presents—the splendor of her military and civil appointments, her exhibitions of wealth, and the majesty of her march among the nations of the earth. We must look at the condition of her industrious classes—the men, who till her fields, and the families which fill her work-shops—and see what is their condition. Amid all this exuberance of riches, are they, the great mass of the people, protected in the enjoyment of the fruits of their labor? Is the restrictive system, which has poured countless millions into the lap of the manufacturer and the great land-holder, ministering to their wants,? nay, has it not robbed them of the hard-earned fruits of their toil? Let their condition, as pourtrayed by Mr. Villiers, a member of the British Parliament, furnish the reply.

"In Preston, there are 1200 empty houses—and paupers had increased 127 per cent since 1837, and crime 37 per cent. At least 10,000 persons in the neighborhood were without a blanket to cover them. In Bolton, Blackburn, Oldham, and many other towns, the state of things was quite as bad. In Little Bolton 300 houses had been visited, containing, in all 500 beds, and occupied as follows: 23 persons without beds; 42 persons slept 7 in a bed; 78 slept 6 in a bed; 185 slept 5 in a bed, &c. Their incomes were, 1025 averaged below 1s. 6d. each per week! 359 more under 2s.; 165 below 2s. 6d, and the rest above 2s. 6d. per week. The rate of factory wages was decreasing. In Leicester, people were actually seen eating from the swill-tubs of the pigs! At Thirnham, a farmer's cow, which had died and been buried, was disinterred by some starving females, and served for food for 20 families who had not tasted meat before for months. At Manchester, no fewer than 4,000 persons were subsisting upon 13½d. per week. Similar details from Ireland are too horrible to be repeated. Human beings were there subsisting upon a diet (sowens) which in England would only be used as hogs wash. Even the swine elsewhere live luxuriously, and horses and dogs fare like princes, compared to these poor wretches. To the agricultural laborers of England, even beef or mutton, as articles of food, are almost unknown; pork is the only kind of animal food they get—and generally but little of that—for the high price of bread takes up the whole of their miserable pittance for that necessary article alone. This class of persons amount to 800,000.

"Much had been said," added Mr. Villiers, "about our vast dependencies, and the magnitude of our foreign possessions; but of what use could they be to these unfortunate people? What was the worth of the East Indies or the West Indies to a starving population?"

This impoverishment and degradation of the masses, are the inevitable consequence of a system of exclusion in respect to the productions of foreign countries. It is a necessary penalty of violating the conditions, on which we possess the earth. The country, which voluntarily shuts itself out from the enjoyment of those products, for which other portions of the globe are better fitted than itself, may, by stimulating particular branches of industry, enrich those who are employed in them, but with the inevitable result of impoverishing, in the same proportion, the great body of the people.

The truth of these observations is clearly exemplified in the Corn-laws of Great Britain. The British ox is muzzled. The laborers, by whose toil her wheat is sown and harvested, are not permitted to eat of the crops which they gather, but at prices which are, to them, ruinously enhanced by a virtual system of exclusion in respect to grains of foreign growth.

A large majority of the American people till the earth, and subsist upon the products of their own labor. We are essentially an agricultural people. May we long continue to be so. The rewards of rural life are health, physical strength, and, (if we have industry and frugality,) abundance, contentment and happiness. The vast extent of the surface which we are to overspread, and the great fertility of our soil, will, for centuries to come, ensure the preponderance of the agricultural class over all others. How important is it that they should possess right views of those great measures of government, which divide opinion in other countries, and, to some extent, in our own! The comparatively recent establishment of our own independence, and the brief career we have run, present few facts, which can be relied on as the settled results of experience. But in the history of other nations, there are mines of the richest instruction. Let us look into the measures with which the two great countries of Europe, France and England, have at different periods shackled free trade in grain. If any thing could lead us to doubt our own wisdom in attempting to turn out of their proper channels, by artificial regulations, the natural currents of human industry, it would be found in the contradictions and absurdities, which the legislation of those countries exhibits, in this respect, and the grievous calamities, which it has brought upon their people.

It is a remarkable fact, that the first law passed in England in relation to grain, was designed for the benefit of the non-producers, by prohibiting the exportation of grain of domestic growth. Its object was to enable the consumer to obtain wheat at a low rate, by shutting out the producer from the foreign market. This law was passed in 1360, in the reign of Edward the 3rd. In 1463, in the reign of Edward the 4th—more than a century afterwards—another law was passed, which may be regarded as the foundation of the existing system. It proceeded upon a directly opposite principle. It prohibited the importation of grain from foreign countries, until the price exceeded a certain amount, for the avowed reason that "the laborers and occupiers of husbandry within the realm were grievously endamaged by bringing corn out of other lands and parts into the realm of England." The object of this law was to enable the producer to sell his wheat at a high price, by shutting out the consumer from the foreign market. From time to time, there were fluctuations in the legislation of the kingdom, sometimes one of the antagonist principles referred to prevailing, and sometimes the other. But in 1689, in the first year of the reign of William and Mary, the land-holders obtained a new triumph. A law was passed, allowing a bounty on the exportation of grain. The object of this, law was to force British wheat into foreign markets, and to make the great body of the people pay a double tax in the enhanced price arising from a diminished supply, and in the premium on its export. In 1773, during the reign of George the 3rd, another great change occurred. An act was passed withdrawing the bounties, prohibiting exportation whenever the price of wheat should reach 44s. the quarter (about $1,30 the bushel) and permitting the importation of foreign grain on the nominal duty of 6d. the quarter (about a cent and a half the bushel) whenever the price should be 48s. the quarter ($1,44 the bushel.) This act continued in force till 1791, and it is said to have been more favorable in its operation to the people at large, than any previous regulation in the history of these restrictions upon the export and import of grain. The act of 1791 permitted exportation till wheat should reach 46s. the quarter; but it enacted that so long as the price should be under 50s. none should be imported except upon paying a duty of 24s. 3d. the quarter, (about 73 cts. the bushel.) This act was followed by others in subsequent years, varying the limits of price, at which importation was allowed, as well as the amount of duty; and for a period of about ten years previous to 1828 importation was absolutely prohibited until the price of wheat rose to 80s. the quarter, ($2,40 the bushel.) In this enactment the triumph of the land-holders is again visible.

The existing system is regulated by an act passed in 1828, the principal provisions of which are as follows. Whenever wheat is 73s. per quarter in the market (about 2.25 per bushel,) it may be imported on payment of a duty of one shilling per quarter, (about 3 cents per bushel). But when the price falls to 61s. per quarter (about $1.62½ per bushel,) the duty on imported wheat is 25s. 8d. per quarter, (about 77 cents per bushel,) and this duty is increased by one shilling for every shilling that the price falls below 61s. Thus if the price falls to 50s. the quarter ($1.25 the bushel) the duty rises to 36s. 8d. the quarter (1.10 the bushel). When the price is ascending from 61s. to 73s. per quarter, the following fluctuating scale of duty prevails.

Wheat being	62s.	the quarter,	the duty is,	24s. 8d.
"	63s.	" "		23s. 8d.
"	64s.	" "		22s. 8d.
"	65s.	" "		21s. 8d.
"	66s.	" "		20s. 8d.
"	67s.	" "		18s. 8d.
"	68s.	" "		16s. 8d.
"	69s.	" "		13s. 8d.
"	70s.	" "		10s. 8d.
"	71s.	" "		6s. 8d.
"	72s.	" "		2s. 8d.

The proposition of the British Ministry in the Parliament, which was dissolved in June, was to fix the rate of duty at 8s. the quarter on imported wheat, or 24 cts. the bushel: and it is a little remarkable that our duty of 25 cts. a bushel on wheat imported into the United States from foreign countries (for we have a corn law ourselves) corresponds so nearly with that proposed in England in place of the existing system.*

Attempts have been made heretofore to substitute a fixed for a fluctuating duty, but without success. In May 1833, Earl Fitzwilliam submitted a series of resolutions to that effect in the House of Lords; but they were negatived without a division. In the same month and year Mr. Whitmore, member from Wolverhampton, a manufacturing town in Staffordshire, proposed a similar change; but he was met by the Chancellor of the Exchequer, with the previous question, and the proposition was defeated by a vote of 305 to 106—nearly 3 to 1.

It is difficult to find, in the history of legislation, such a series of blunders and inconsistencies as is exhibited in these attempts to divert the industry of Great Britain from its natural channels, and to give it a direction, which can only be maintained at the sacrifice of the comfort of a large portion of her people. False notions of national economy lie at the foundation of these measures of restriction; but it is obvious also that the contradictory enactments, to which we have briefly referred, are the fruit of a struggle between domestic interests in reality identical, but rendered, by a mistaken and selfish policy, separate and antagonist. The whole social system of Great Britain is of singular complexity, and we must be cautious, in inquiring into the causes of the inequality which exists in the condition of the people, that we do not refer prevailing evils to the wrong source. But when we see a large portion of the population reduced to the penury and want described by Mr. Villiers, and perceive that by the accidental conflagration of Mynyard House, the splendid residence of the Marquis of Londonderry, that nobleman lost a million and a half of dollars in buildings and furniture, we are admonished in the most significant manner to guard against the establishment upon our own free soil of a system of artificial restrictions, which has produced this impoverishment of the masses in Great Britain, and contributed at least to a pernicious inequality in the distribution of her wealth. The comfort and happiness of the great mass of the people are the true ends of all government: and no political system ,which consigns them to penury and want, can long be upheld. It will either fall by the spontaneous separation of its own elements, or it will be torn down by the hand of violence. If, as is supposed, the late appeal to the people of Great Britain, through the influence of the landed interest, including the rich noblemen, whose mansions, like the Marquis of Londonderry's, cannot be burnt to the ground without the destruction of a million or two of property, has resulted in the triumph of the corn-law monopoly, we cannot but believe that the internal tranquillity of the British empire will, at no distant day, be disturbed by the most violent agitations.

The history of legislation in France in respect to grain, is like that of England, full of inconsistency and contradiction. Indeed it contains restrictions of a far more absurd and arbitrary nature. For a long period, the producers of grain were prohibited from carrying it out of the limits of the particular district in which it was raised, into other parts of the kingdom. To give our readers a full understanding of the subject, we have translated an article from a French agricultural writer, and commence its publication in this number. The history it gives is full of instruction, and reflecting minds will not fail to profit by it.

Happily, the agricultural classes in America need no protection. At a distance from all other grain producing countries, the wants of the Western hemisphere must be supplied by them. They are not only independent of the other three quarters of the globe for the necessary means of subsistence, but they need not fear the competition of any rivals in disposing of their surplus produce. In the rapid increase of the population of our country, in the constant extension of the mechanic arts, which minister to our own wants, and in the condition of other communities on the American continent, our farmers have for the products of their industry outlets, which are not merely certain, but which will be sure to multiply with the extension of their own powers of production. Their importance in the social scale is great, and it must, in the nature of things, be perpetual.

* According to the instructions of Mr. McLane, (while Secretary of the Treasury,) in relation to articles charged with specific duties, previously to 1833, wheat, under the compromise act, will pay an *ad valorem* duty of 20 per cent after June, 1842.

CORN LAWS IN FRANCE.

[Translated from the French of General the Baron Juchereau de St. Denys, for the Northern Light, by JOHN A DIX.*]

Public interest has recently been awakened anew to the important question of the exportation and importation of grain, through the proposition made the present year by the government to the two legislative chambers to prolong the temporary law adopted the preceding year.

The last mentioned law, which provides an adequate protecting duty in favor of domestic, against the importation of foreign, grain is, in itself, a decided step towards a proper system of economy, for the reason that it has superseded the prohibitory provisions of pre-existing laws. It also aims to determine, upon the basis of experience, by what principles, in view of the national interest, the grain trade should be regulated.

We shall endeavor to throw some light upon this most important question, by showing what has been done in France and England in respect to it, by exposing the errors committed in those two countries, the most industrious and civilized in Europe, in respect to the regulation of the trade in grain, and, by profiting by these errors, to arrive, as far as possible, at a satisfactory solution of these difficult questions.

We propose, at the outset, to inquire—1. Whether the annual produce of France is equal to the annual consumption by its inhabitants? 2. Whether the free circulation of grain throughout all the departments of the kingdom should be allowed in seasons of scarcity? 3. Whether the exportation of grain should be always permitted; and whether in any case the importation of foreign grain should be absolutely prohibited? 4. Whether it is necessary to take measures of precaution, such as the establishment of public granaries, to provide for the wants of seasons of scarcity? 5. Whether the government should exercise any direct influence upon the trade in grain, either by taxing grain in the market or by purchasing abroad on its own account? 6. Whether the importation of grain from abroad or from the interior should be encouraged by bounties?

The solution of the first of these questions will shed much light upon all the others.

An erroneous opinion, but one too prevalent in the towns as well as in the country, leads many persons to affirm that the earth in France produces annually a sufficient quantity of grain to support the inhabitants during two or three years. If this were true, we should have, in France, at the end of two years, an excess of from two to four years beyond the quantity consumed. It would be necessary then to burn all the grain in the country at each harvest; for besides that there would be neither barns nor granaries to contain so enormous a quantity, the price of all grain would be so reduced that the farmers, having no longer the means of paying the expense of culture, would be forced to abandon its production.

But the experience of ages has demonstrated that the crops in France are sufficient for its consumption. It has been ascertained that, for a period of ten years, for example, there have been constantly three abundant years, in which the crops have yielded from a tenth to a third more than in ordinary years, in which the grain harvested has amply sufficed for the consumption of the kingdom; and, finally, three years of comparative scarcity, in which the harvests have been from a tenth to a third less than in ordinary years, but rarely more.

The result is an exact equality in the ten years taken together; the excess of the years of abundance supplying, notwithstanding the increased consumption, the deficiency of the years of scarcity.

These differences in the crops produce upon the prices of grain the most remarkable effects.

In years of abundance the price falls ordinarily from a tenth to a third. This fall is the greater when the abundance exists throughout the kingdom.

In years of scarcity, the enhancement of price follows the ordinary advance from a tenth to a third, when great freedom is allowed in the trade in grain in the interior of the kingdom. But if, as often unfortunately happens, the government, by ostensible precautions or ill-judged measures, excites alarm and uneasiness in the public mind, prices do not follow in the same rate of progression; they advance rapidly to double or treble the ordinary rate, as was seen in 1811 and 1812, as well as in 1816 and 1817.

The course of the crops is, therefore, so wisely regulated by the care of Providence, that, without being every year the same, they have been and probably always will be, taking one year with another, sufficient for and proportioned to our wants.

As to the free circulation of grain throughout all the departments of the kingdom, it was not until 1774, under the ministry of M. Turgot, that this great principle of political economy was properly appreciated, adopted and put in practice in all the provinces in France.

Until that time each province kept its own articles of subsistence and could not send them into neighboring provinces without permits, which were obtained with difficulty, and which were always refused in years of scarcity.

The regulation of the grain-trade was at that time one of the special attributes of the higher courts and tribunals. These judicial bodies were in the habit of prohibiting, under the severest penalties, the exportation of grain out of the district, in which it was grown, in times of scarcity or dearness. Smuggling alone could remedy the evil, and it was carried on with great activity.

As the climate in different portions of France differs greatly, and as it often happens that the crops are abundant or fail in the northern districts, while the contrary effect takes place in the departments of the south, the free circulation of grain has the happy result of remedying all the evils caused by the inclemency of the seasons, by inundations or meteorological accidents.

But freedom in the circulation of grain, which France owed to the consummate wisdom of M. Turgot, ceased to produce its happy effects when the National Convention, imitating the despotic governments of Asia, founding its measures solely upon the sentiment of fear, and trampling under foot the results of experience as well as the principles of justice and reason, shackled by tyrannical and absurd regulations the internal trade in grain, promulgated the law of *maximum*, and caused a general famine. The free circulation of grain, restored by Napoleon, brought back abundance. Under his fostering care the price of wheat rarely exceeded 40 to 45 francs the Paris setier.*

But the cruel dearth of 1812, the repeated and tiresome demands of the prefects, the unsettled state of the true principles of political economy at that period, led the Emperor Napoleon to overlook the benefits he had before derived from the circulation of grain, and induced him to adopt measures of restriction, which he hastened to abandon as soon as he perceived their tendency and fatal consequences.

The farmers were forbidden by an imperial decree from exporting their grain from their *department*, and even from sending it out of their *commune*,† without the permission of the prefect. The price of wheat was fixed at 50 francs ($2.10 per bushel) in the departments, where its cultivation was carried on extensively, as in La Beance, La Brie and Picardy.

But the exports beyond the limits of the departments and communes were carried on during the night; fear led to the secretion of large quantities of grain; prices, instead of stopping at the legal rate of 50 francs, rose to 80 and 90‡ the setier; and the price of bread rose to 10 and even 15 cents the pound.

These pernicious results demonstrated the utility of the principle of free trade in grain, and showed conclusively how greatly a government injures its own interests and those of the people whenever it exerts its action, in a direct and palpable manner, upon the commercial operations of the country, and particularly upon such as concern articles of subsistence.

As to the question of the free exportation of grain, it has often given rise to very animated controversies, and it has led the government in many cases to adopt contradictory arrangements in respect to it.

Upon the motion of M. de Calonne in the assembly of notables, in 1787, the free exportation of grain through all parts and on all the frontiers of France, was adopted unanimously and registered without opposition in all the high courts of the kingdom.

Two years afterwards it was repealed, under M. Neckar, on the occasion of a hail-storm in the month of July, which afflicted many of the districts in the neighborhood of Paris. This minister, who was unnecessarily alarmed by the calamity referred to, not satisfied with prohibiting all exportation of grains, introduced at great expense, grain from other countries, and spread terror throughout France by his open and striking measures. The consequence was a real dearth, which lasted more than two years.

From this epoch to 1814, exportation has too often been restricted, and has only been tolerated, under particular circumstances and for short periods, at

* Journal des Travaux de l'Académie de l'Industrie Franaise, vol. 3, page 289.

* The setier is 4·294 bushels. At 40 francs the setier, reckoning the franc at 18¾ cents, a bushel of wheat would be about $1·74.

† The department is a municipal division corresponding in some degree with our counties, and the commune is an inferior division corresponding nearly with our towns.—*Translator.*

‡ At 90 francs the setier, the price of wheat would be about $3·95 per bushel.

certain ports and frontiers. It was partially allowed, in respect to England, in 1810, in vessels furnished with licenses.

After a very luminous discussion in the two legislative chambers, during the session of 1814, the law allowing a free exportation of grain was adopted by a very large majority.

Two great interests, apparently conflicting, continue still to divide opinions upon this important question: the interest of the land-holders and the interest of the consumers.

The interest of the land-holders, which is also that of the State, demands that agriculture, which is the foundation of all wealth, should be constantly encouraged, that the sale of its products should be unshackled, and that it should be able, with entire freedom, to seek markets for them both in the interior of the kingdom and in foreign countries.

Humanity is invoked in behalf of the consumers, a large portion of whom are day laborers, who having but small wages, have reason to apprehend that large exportations will augment the price of grain to a very high rate.

Let us see whether the prohibition is likely to produce more effectually a diminution of the price of grain than the liberty of exportation

(To be concluded in our next.)

[From the Penny Mag. April, 1841.]

CHEMICAL PRINCIPLES OF THE ROTATION OF CROPS.

Those plants ought to succeed each other which contain different chemical ingredients, so that the quantities of each which the soil at any given time contains may be absorbed in an equal ratio. Thus a productive crop of corn could not be obtained without the phosphates of lime and magnesia, which are present in the grain, nor without the silicate of potass, which gives stability to the stalks. It would be injudicious, therefore, to sow any plant that required much of any of the above ingredients, immediately after having diminished the amount of them present in the soil by a crop of wheat or of any other kind of corn. But, on the other hand, leguminous plants, such as beans, are well calculated to succeed to crops of corn, because they contain no free alkalis, and less than one per cent. of the phosphates. They thrive, therefore, even where these ingredients have been withdrawn, and during their growth afford time for the ground to obtain a fresh supply of them by a further disintegration of the subjacent rock. For the same reason, wheat and tobacco may somestimes be reared in succession in a soil rich in potass, because the latter plant requires none of those phosphoric salts which are present in wheat. In order, however, to proceed upon certain data, it would be requisite that an analysis of the plants most useful to man should be accomplished in the different stages of their growth, a labor which has hitherto been only partially undertaken. It is a curious fact that the same plant differs in constitution when grown in different climates. Thus, in the beet root, nitre takes the place of sugar when this plant is cultivated in the warmer parts of France. The explanation of this difference is probably as follows:—Beet-root contains, as an essential ingredient, not only saccharine matter, but also nitrogen; and it is probable that the two are mutually so connected together in the vegetable tissue that the one cannot exist without the other. The nitrogen, being derived from the decomposition of ammonia, must be affected by any cause which diminishes the supply of the latter; and in proportion as this ingredient is wanting, the secretion of sugar will likewise fall off. Now, it has been shown by Liebig that the formation of nitric acid is owing to the decomposition of ammonia; and it is conceived by him that the last products of the decomposition of animal bodies present themselves in the form of ammonia in cold climates, and in that of nitric acid in warm ones. Hence, in proportion to the amount of nitric acid formed, and of nitre absorbed by the plant, that of the nitrogen, and, consequently, that of the saccharine matter present in it may be diminished. *Lectures on Agriculture, by Dr. Daubeny, Sibthorpian Professor of Rural Economy in the University of Oxford.*

HONEY.

A correspondent in Louisiana makes the following request, to which we shall be greatly indebted to any of our agricultural friends for an answer:

There is one subject, on which the people of the south and west very much need information; it is on that of the production of honey,—and this, I believe, would come under the agricultural head of your paper. If some of your agricultural correspondents would, during the current year, furnish a formula for a house for keeping *bees*, and such other information as to them might seem useful, they would confer a great favor on many of your southern and western readers.

Literature and Science.

A TALE.

BY ALOYS SCHREIBER.

[Translated from the German for the Northern Light, by HORACE B. WEBSTER.]

KURD VON DACHAU spent the autumn at a monastery, over which his uncle presided as Abbot. His father and his two elder brothers had fallen in the campaigns of the Emperor, and he was the last of his race. His uncle often urged him to seek a wife among the noble ladies of the Speiergaus, where his castle was; and this would not have been difficult for him, as his form and manners were faultless, and since the death of his father and brothers, a quiet melancholy rested upon his countenance, which made the young knight still more attractive to the ladies. The heart of the youth seemed, also, in no wise, steeled against beauty and loveliness, but when his look rested upon some fair being, and it seemed as if the star of his life was rising to the ascendant, then, suddenly a gloomy presentiment came over him, as if an evil spirit stepped between him and the object of his hopes.

The cloister in which he had now passed several weeks was situated in a secluded, but charming spot, in a delightful valley; on one side rose hills covered with vines; on the other, their lofty summits were crowned with aged oaks and elms. Kurd usually rambled about the country, and lost himself in dreams of the future. One day he pursued his way through a wood which he had not before visited. He had been absent about an hour, and was on the point of returning, when he heard the murmuring of a brook. He went onwards, and soon came to the bank of rather a broad stream, which flowed, meanderingly, between the soft, sloping hills. At some distance, on the opposite bank, stood a small, newly-built, elegant castle. He had just fixed his view upon the beautiful prospect, when he observed a young maiden float from the thicket which skirted the castle wall, loosen a boat from the shore and step into it. The rudder appeared too heavy for her delicate hands, for it was with difficulty that she pushed the bark from the shore, and guided it into the current. She glided up the stream, and continually approached the bank where the young knight stood. The management of the vessel was so hard, that she had not time to look around, and Kurd remained unobserved. When the maiden, however, drew near, he stepped behind the trees, in order not to alarm or startle her. The lovely, youthful, blooming creature was now only a few feet from him, and earth and heaven vanished at the enchanting scene. He had never before met with a being so beautiful, delicate, and modest, and on her countenance rested a peace, which, it seemed, that no storm could ruffle.

Only a few steps from the knight the stream formed a little, sandy bay. The maiden guided her bark thither, to rest a moment from her toils. She stood leaning on the rudder, like a heavenly apparition, and surveyed the prospect. Then, in an artless, but graceful manner, she sang the following song:

Reclined at ease by the emerald sea,
A youth exults with a gladsome glee;
As mirrored below in the glassy deep,
He sees the blue hills and the grazing sheep.

He plucks from its leafy stem a rose,
And into the sea the floweret throws;
And plying his stick, like a tiny oar,
He pushes the roselet away from the shore.

Then starting up from the opening deep,
He sees a mermaid suddenly leap;
Than the falling snow, more pure and fair,
And a wreath of coral binds her hair.

O, bless thee, bless thee, beautiful boy,
Thy rosy gift shall bring thee joy:
Come dwell with me in my coral home,
For thee the sea, like the earth shall bloom.

Come down with me, and thou shalt forego,
In the quiet flood much bitter woe:
Come down where the waters peacefully rest,
And there repose on my snowy breast.

The mermaid wins—with a bound of joy,
Springs to her arms the beautiful boy;
And now on high in the starry deep,
He sees the blue hills and the grazing sheep.

The notes of the song floated on the autumnal breeze among the leaves of the oaks, but in the breast of the young knight they continued to sound, as the boat again glided down the stream, and the fair image threatened to vanish like a vision of the night.

He stepped down to the shore, in order to retain her image with the full power of his soul, yet by the rapid current, she quickly reached the land, sprang from the bark and was lost in the thicket.

First love is oft like the fire which the lightning kindleth. Thus, also, was the heart of the youth struck by the consuming flash. A long time he stood on the Waldbach, as one stunned, and gazed now at the boat, now at the castle. Already had the sun sunk behind the mountains, when he recollected that he could remain there no longer, and directed his steps slowly back to the cloister. He looked on the right hand and on the left for a human being, who might give him information about the castle, in which, without doubt, the fair unknown dwelt, but he saw no one. On his arrival at the cloister, he inquired of one of the servants. "That is the white castle," said he; "it is called so, because it is painted white, and in the castle the dumb lady lives. From horror at the sudden death of her lord, she has lost her voice."

The servant knew no more, and the knight feared to mention that which he wished most dearly to know. That the beautiful pilot was the daughter of the dumb lady, seemed to him unquestionable, and he hoped soon to learn her name.

II.

Early on the following day stood Kurd again at the brook side, and looked down upon the white castle. People passed in and out, but the maiden was not there. Hour on hour went by, and painful as it was to the knight, he resolved, towards noon, to return to the cloister, though the star of his hope had not arisen. Evening found him on the same spot. Fortune now was less unkind, for the maiden came, as the day before, to the bank, stepped into the boat, and guided it up the stream, to the place where the young knight stood. He again concealed himself behind a hedge, and bent down the bushes in order to observe the beloved object. The maiden guided the bark again to the bay, looked hastily around, and then stepped, bashfully on the shore. At this moment a gipsy came from the forest, leading a little girl, about six years old, by the hand, and carrying an infant on her back. The maiden could not restrain her fear, but recovered herself again, when she saw that she appeared to be a mother with her children, soliciting charity.

"Beautiful lady," said the gipsy, "if you will permit me to sit in your boat, and cross over with you, I will tell your fortune. Give me your hand."

The maiden scarcely knew how to answer this strange request, and suffered rather her hand to be taken than offered it. The gipsy but looked at it, and laughingly exclaimed, "The signs are good, first a thorn, then a rose. One star goeth up, another goeth down, but they unite at last. Fear not, fair lady, to-day is a happy day; perhaps he will meet thee even to-day."

"Who?" asked the maiden with some curiosity.

"Ah!" replied the gipsy, "I cannot say who. But he no longer lies in the cradle, and already wears a sword."

The maiden blushed. In amiable embarrassment, she drew a silver piece from her purse and handed it to the woman.

"Heaven be praised!" said she, "I should have paid you for carrying me across, and you give it to me."

The maiden looked now at the boat. "Good woman," she began after a short pause, "I would willingly carry you across, but the vessel will be too heavy, and I am not so skilful a pilot as a sailor."

The gipsy thought that an accident was impossible, as the stream was not deep. Finally she said, "Can I not wade across?"

"No no," exclaimed the maiden, "there are deep spots on the other side."

The knight was unable longer to keep back. He stepped from out the thicket, saluted the maiden kindly, though with a beating heart, and said, "Noble lady, permit me to take the helm. I am a little acquainted with this art, which is not indeed, difficult, requiring only a strong arm."

The sudden appearance of the young knight startled the maiden. She whispered some unintelligible words, and modestly cast her eyes on the ground.

"You may trust me," continued Kurd, "I am a Dachau, and the Abbot of the adjoining monastery of St. Martin is my uncle."

The gipsy in the mean time had quickly looked at the knight, and then, with her finger, traced strange figures in the sand.

"Children!" she exclaimed now with solemn voice and gesture; "children, ye must not think meanly of us, because we have no more a home since our people forsook the graves of their fathers. They had pried into the secrets of the spirit-world; therefore, their children wander in error, and their race must fade away. But believe my words, this day is propitious to you both."

"It is, indeed, to me!" said Kurd, in the overflowing of his heart, and his glance met the eyes of the maiden, who blushed deeply, and stood there as tremblingly as a rose, which has lost its stem.

"If you would be so kind, Herr von Dachau," said she, and looked towards the boat. Kurd would offer her his hand, to assist her, but she quickly stepped in, the gipsy followed, and Kurd brought the boat safely to the other shore. The maiden thanked him very kindly.

"Grant me only one prayer," said Kurd, "as I have seen your face, so would I gladly learn your name."

"I am Irmengard," she replied with downcast eyes, bowed herself, and slowly ascended the hill.

Kurd looked after her, until she had entered the castle-gate. It now first occurred to him, that he could not use the boat on his return, because he would then leave it on the opposite shore. He was about preparing to wade across, when almost breathless, a servant, sent by the lady Irmengard, hurried down from the castle, to ferry the knight across. This attention greatly pleased him, and his loving heart construed it into a favorable omen.

Some gloomy days of rain, which now succeeded, compelled the knight, painful as it was, to remain at the abbey. He wished for the wings of his thoughts, which floated over forest and stream, to the white castle, and brought ever only new longings. Late in the evening of the third day the sky became clear. "The weather changes at the right moment," said the Abbot at supper.

"Why do you think so, dear uncle?" asked Kurd.

"We celebrate in the morning in our church the birth-day of the deceased count Von Thurn, and his widow is accustomed to come from the white castle, and to be present at the requiem."

This intelligence was doubly joyful to Kurd. He might hope, on this occasion, to see the fair Irmengard, and at the same time give him a good opportunity, to obtain some information.

"That is, indeed, the dumb lady," said he, "who, from horror at the death of her husband has lost her voice."

"Hast thou already heard the tale?" inquired the Abbot. "No, the gift of speech is not gone; yet, since the death of her lord, she has made a vow, never to speak again."

"And why?"

"Because," continued the Abbot, "she had often bitterly grieved with her tongue, and even on the day of his death, the blessed Count Von Thurn, who was indeed a little given to intemperance. Otherwise, she is a very prudent and modest woman."

"Has she children?" asked Kurd, and reddened deeply at the question.

"Their marriage was unfruitful; thence arose also many domestic troubles. Between man and wife there is no stronger bond than a child."

The young knight knew no more of Irmengard than before, and the only conjecture left to him was, that she might be a cousin of the Countess of Thurn.

He could hardly wait for the dawn of the next morning, and when about nine o'clock, the first signal of the funeral service was given by the bell, he stepped to the window, from which there was a view of the road leading from the white castle. When the bell tolled the second time, a procession came up from the valley. Two ladies, in deep mourning, rode first, accompanied by numerous attendants. They descended in the court of the cloister, and immediately repaired to the church. The knight Von Dachau recognized, at the first glance, the lovely Irmengard, on whose arm the lady was leaning. He hastened also to the church, and took a seat, where he could easily see the maiden, without being observed by her. After the high mass was ended, and the requiem sung, the Abbot came and opened the tomb, in which the body of the Count Von Thurn reposed. The lady and Irmengard arose from the oratory, and descended into the tomb. An aged monk, in surplice and stole, with some brethren of the cloister, who carried burning tapers, censers, and consecrated water. An anxious presentiment impelled the young knight to follow the ladies. He remained, however, standing on the lowest step, while the others went to the grave of the Count, which was hewn in stone at the end of the vault. The monk sprinkled the holy water, burnt incense, and repeated the words of the requiescat in pace, then with a shriek sank the lady in a swoon to the ground. Irmengard, pale as a corpse, tottered towards her, and seemed to be hardly able to sustain herself. Kurd thought not a moment, with a step was he at the grave, seized the sinking maiden in his arms, and bore her out of the tomb into the church, where she immediately revived. She looked astonished at the knight, thought a moment, and now first regained her full consciousness.

"Where is my aunt?" asked she. "Ah, the hateful odor of the dead in the tomb and melancholy recollections have overmastered her more than me."

"The lady Von Thurn is in good hands," answered the knight. "Father Bruno and the brethren have certainly restored her. Permit me, lady Irmengard, to lead you into the open air, that you may more speedily recover."

Irmengard went, leaning upon the arm of the knight, from the church into the beautiful, spacious court, where two fountains were casting up their clear crystal streams. Irmengard bathed her temples and face, which revived her. She yet appeared pale and faint, but even so, still more attractive to the knight. In his eyes, which he could not turn away from her, was the involuntary timid prayer of love. His looks pierced to the heart of the maiden, and a lovely redness quickly suffused her cheeks. Kurd seized her hand, and pressed it to his lips. She drew it softly back. Just then approached the Abbot. He had caused the lady Von Thurn to be carried into a room, and she desired the presence of the maiden. Irmengard was still so exhausted, that she needed the assistance of the young knight to ascend the steps.

III.

The Abbot well remarked the impression which the lovely Irmengard made upon the young knight, and when, after a few hours, the ladies had departed, he said to him,

"Speak candidly, Kurd, what think you of the lady?"

This question was to the knight rather abrupt; but as he had never been accustomed to prevaricate, he answered frankly.

"Venerable uncle, if it could so happen to me, she should be my wife."

"I would willingly add my blessing thereto," replied the Abbot; "but there is one insuperable difficulty to be removed."

Kurd was disturbed, and the Abbot gave him the following explanation:

"Thou wast yet young when thy father died. I brought thee up; and thou camest to us from the residence of thy liege lord, the Count Von Sponheim, and hence thou knowest little of the affairs of thy family. Thy father and the old prince of Hoheneck lived in continual discord, and were at war with each other for some years. The contest was finally ended, yet their hearts never again beat in unison, for nothing is more fragile than a broken friendship healed. Once, over their wine, the old quarrel burst forth again, stronger than before. Thy father wounded his opponent with bitter words—they determined to meet on the eighth day. On the sixth, thy father suddenly died, and the Hohenecker could not even in the grave forgive him, that he had passed from the world without satisfaction. Now, I fear that his hate will be transferred to thee."

"But perhaps he will be appeased, if I gain the hand of his daughter."

The Abbot shook his head. "There are men," he said, "to whom hatred is a grievous burden, and they soon throw it off; and there are also men who must hate, because they cannot love."

The knight did not perfectly comprehend these words, and as the Abbot took not entirely away all hope, and faithfully promised assistance, this difficulty did not appear so great, and he concluded that the favor of Irmengard was the most important thing, and that the rest would be only child's play, when that was obtained.

With the longing and hope of love in his breast, he hastened the same evening again to the bank of the Waldbach, and soon the fair Irmengard also came down the hill. She looked now across the stream, now at the boat, seeming undetermined whether or not to take her usual sail. She could not perceive the knight on account of the thicket. After a while she stepped into the boat, and steered up and down the stream for a short distance, without, moving away from the shore. Kurd stood in anxious expectation. Soon she again stepped on the shore, cast a searching glance around, and then turned back to the castle; yet this time she followed a path on the left side, where the hill was bare and denuded of trees and bushes.

The knight now, sad and melancholy, came from the thicket. Ah, if at least she had seen me, he sighed, and at this moment she turned her beautiful face toward the stream. Undoubtedly Kurd was not observed by her, for she remained standing, turned slowly around, stooped to the wild flowers, which here and there covered the hills, and again approached, as enticed by the late children of the autumn, the Waldbach. The knight saluted her with his hand. Irmengard appeared at first not to observe it, finally she returned the salutation, and the loved one of the castle slowly ascended.

Thus it happened for several days. The lovers saw each other from the opposite shores, but Irmengard never crossed the stream, and Kurd at last thought, that a brook between him and Irmengard was as bad as the ocean. Hope had already lent her wings to his love, and thereby increased his courage, and he determined to surprise the maiden on the other side. A short distance up the stream was a mill belonging to the abbey. The miller had a boat, and in this one evening Kurd crossed the stream. He saw the maiden at some distance, but the nearer he approached to her, the more painfully beat his heart, and the slower were his steps. She observed him, and started; she would haste away; still she could not move from the spot. The knight went respectfully towards her. When he observed her confusion, a sadness siezed him.

"Noble lady," said he, "assure me that you do not scorn me for my boldness, and I will immediately return."

"Why should I scorn you?" answered Irmengard with downcast eyes.

Kurd passionately siezed her hand. "Irmengard," said he, "there is no truer heart than that which here beats for you." At this word he pressed the hand of the lady to his heart, bowed, and slowly returned.

IV.

Between the monastery of St. Martin and their patron, about this time, a grievous feud arose. The knight of Dachau hesitated not a moment to draw his sword for the abbey, over which his uncle presided. He summoned his vassals, armed his attendants, and in a short time collected a valiant band. He could not, however, depart from the country where bloomed all the happiness of his life, without once more seeing her, to whom his heart clung with inexpressible love. He directed his steps to the mill, in order to cross over. In the forest, the ground was already covered with the yellow leaves of the oak and elm. Here and there a bird sang a melancholy farewell song to the joys of the year. A deep sadness overpowered the knight. Nearly thoughtless, and occupied only with his melancholy and his love, he reached the opposite shore, and lingered, as he nowhere observed a human being, on the road to the castle. A short distance from the castle, on the trunk of an old linden tree, stood an image of the Virgin Mary. Irmengard stood before the image, her hands piously folded, when Kurd approached the spot. She first observed him, for the fallen leaves rustled beneath his footstep, and he looked vacantly before him. At this time she did not appear startled at his presence, and addressed him first. "Lost in thought, Herr Von Dachau," she said, with a pensive smile, for the news of his departure had already reached her.

"Noble lady," answered Kurd, "in future think of me, when you pray here; for I am going now to face many dangers, and have come to bid you a farewell."

Irmengard grew pale. "Is it then certain?" she asked with trembling voice.

"It is certain. We leave to-morrow."

"I will pray for you here daily, before this image," lisped the maiden, and her lovely head fell upon her bosom, as bends a lily when swept by the storm-blast.

"I go now confidently," said Kurd; "for if I should fall, I shall not be entirely forgotten! Will you not, also, Irmengard, pray for the dead?"

The maiden grew pale. She could no longer restrain her tears, and extended her right hand to the knight, while with her left she dried her eyes. "I hope that you will again return," she said, and suffered the knight to bedew her hand with burning tears.

"Irmengard," he exclaimed with the most impassioned feeling, "Irmengard, this hand"—

"Be careful of yourself," she warmly and eagerly said, and quickly departed.

The knight returned to the cloister with the bliss of reciprocated love in his heart. Full of the serenest confidence, he went to the uncertain contest, and his gladsome spirit infused itself into his comrades. Two bloody actions decided the whole contest. At each time the patron was repelled, a part of his men were taken captives, and another part fled in wild confusion, and he himself, with a diminished band, was compelled to seek safety in his own strong castle. But alas, the knight Von Dachau, in pursuing the fugitives, fell into their hands, and now was languishing in a dungeon on the inaccessible Felsenburg.

V.

A gloomy winter, filled with snow-storm and tempest, rolled slowly away. Irmengard mourned in solitude her imprisoned lover, and the young knight's impatience daily increased with the hostile destiny which kept him at a distance from her, who was to him all-in-all. His uncle, the Abbot of St. Martin, omitted no exertions to procure his release; but the patron created numberless obstacles, until finally he was compelled to bring about a reconciliation with the Count Von Sponheim.

It was in the last days of April that Kurd was released from imprisonment, and hastened back to the cloister. Already blew the mild breezes of spring; the bright, fresh green of the beeches peeped forth from between the dark pines, and here and there on the hills stood the fruit trees in full blossom. An infinite longing filled the breast of the youth, and his thought could rest nowhere. Only when he first saw the well-known faces, and the towers of the abbey, did he feel himself again at home, and the image of his beloved stood before him in bold outline. The Abbot received him as a son. But he soon went from the walls of the abbey to the castle. He crossed the stream by the mill, and walked in great emotion, upwards from the same. A shriek startled him from his dreams. Irmengard stood before him; involuntarily extended her arms, but with virgin modesty, let them fall again.

"Irmengard!" exclaimed the knight, and took her hand, and pressed it tenderly to his breast. Both were almost unable to speak; they looked in each other's eyes, and the whole gloomy past faded before them. Evening drew on before they were aware, and they parted with the promise to meet again on the morrow.

Several weeks passed away to the lovers, like a blessed dream, and in their soul the thought never arose, that it could be otherwise. Meanwhile their meetings remained no secret; among others the patron of St. Martin had heard of it, and as he hated the Abbot and his nephew, so he gave secret intelligence to the Baron Von Hoheneck, what was whispered about his daughter and the young Dachau. In the Hohenecker burned the old hatred,—he hastened to the white castle, with dark thoughts of vengeance in his soul. On his arrival indeed he seemed to observe nothing. He had come to spend a few days, he said, and to see again his beloved daughter. But through the dissembled friendship, the painfully concealed rancour here and there broke out, and Irmengard was troubled in spirit. Among the attendants of the Baron was an old servant, honest and faithful, and an enemy to all knavery. He warned the maiden, for his suspicions had been excited by divers questions which her father had asked of the castellain of the Countess Von Thurn. An inexpressible sadness seized Irmengard. She must speak to the knight Von Dachau; she must warn him. With this design, she dispatched the gardener, in whose confidence she could trust, as a messenger to the abbey, and appointed to meet the knight at the midnight hour on the shore of the stream, where the boat lay. With trembling, she awaited the moment, and when the gardener returned with an answer that he would come, she was able only partially to conceal the feelings of her heart.

The night drew on; the clock tolled eleven, and in the castle all appeared to be buried in sleep. Irmengard's chamber adjoined a hall, where different presses stood. In one of these was preserved a dress, which a relative of the Countess Von Thurn had worn. He had died in his fourteenth year, and the garment seemed to have been made for the maiden. She dressed herself therein, and glided from the castle through the garden to the place of meeting. Kurd was already waiting, filled with anxious expectation. She confided to him what she knew and apprehended. The youth appeared beside himself, but Irmengard spoke comfort and consolation to him. "There, above," said she, "is the destiny of man determined. If Heaven has appointed us for each other, no power can separate us.

Thus she spake frequently to him, and a ray of hope again shone into his breast. They must now part; but the maiden promised to send him a message on the following day by the gardener. He accompanied her to the end of the hedge, and there remained standing and looking after her. She had only advanced a few steps in the garden, when there was a whizzing, like an arrow through the air, and Irmengard sank, with a shriek, to the earth. Kurd hastened to her. She lay in her blood.

"Irmengard," he exclaimed in a voice of despair, "Irmengard! thou art murdered!"

"Who? who?" roared a fearful voice, and a tall, gloomy form advanced from the shade of the trees to the body. Kurd recognized the Baron Von Hoheneck.

"Is it thou?" he asked, "hast thou shed thine own blood?"

"Man," said the grey-haired, "say not again, that this is my daughter."

"It is Irmengard Von Hoheneck," replied Kurd with terrific rage.

"Woe! woe! woe's me! I have murdered my child!" roared the Hohenecker, and rushed down the hill as if the spirit of vengeance was pursuing him.

Kurd's cries for help soon brought the gardener and some other servants from the castle. Torches were brought, and the by-standers shuddered at the sight which now presented itself at the flare of the torch-lights. The maiden lay on the ground, lily-like, pale and without motion. The arrow had entered her right shoulder, and the blood flowed therefrom profusely. After awhile she again opened her eyes, and a cry of pain escaped from her lips. "Heaven be praised, she lives!" exclaimed Kurd, and knelt down beside her, and seized her cold hand. Preparation was made to remove her to the castle. The knight left not her side, till the castle chaplain, who also practised the healing art, had extracted the arrow, and declared that the wound was not mortal. Only with difficulty could Kurd be persuaded to return to the cloister, and with the permission that he might daily come and inquire after the health of the maiden.

Of the Baron Von Hoheneck, none had thought, till Irmengard, the next day, when her spirits had returned, inquired after her father. She seemed not to imagine that the deadly shaft came from his hand, and she longed for a word of reconciliation. Kurd came over early, and inquired after Irmengard. The capellain gave him comforting intelligence, and then spake the knight, "Her father may, indeed, consider her dead, and in his despair, have laid violent hands upon himself."

The servants were soon sent out in search of him, and Kurd also warmly joined them. Yet all their search was in vain; some returned sooner, others later, with the intelligence, that they could discover no trace of him. It was now supposed, either that he had thrown himself into the stream, or had buried himself in a cloister, in some distant country. All, however, was carefully concealed from Irmengard; her wound soon healed, and in a few weeks she was able to walk about her room. Kurd received the news of her recovery with a joy, purer than had ever before entered his soul, yet he had no longer the courage to go to the castle, for he felt that the uncertain fate of Irmengard's father would thrust a gloomy spectre between his wishes and his hopes.

About this time there came to the monastery of St. Martin a lay-brother from Loraine, who, at the order of the Prior, was travelling to the Danube. Among other things, he told of a strange man, who, a short time before, had sought refuge in their abbey, and although appearing to be of noble birth, had offered himself to the Prior of the convent. The Abbot and the knight listened attentively. They asked about the appearance of the man, his age, and the time of his arrival at Loraine. All that the brother related, seemed to designate the Baron Von Hoheneck, and Kurd instantly determined to set out for Loraine.

VI.

After journeying many days, and undergoing many hardships, he reached the monastery, where he hoped to find the father of Irmengard. Already he saw the two towers of the splendid minster, rising above a small grove of oaks; he turned down a footpath, which led from the high road through the wood, when he observed at the entrance of a small ancient chapel, a man meanly clad, who appeared to be praying fervently. He recognized in a moment the Baron Von Hoheneck. He sprang from his horse, gave it to his attendant, and waited till the Baron, who had not been disturbed by his arrival, had finished his devotions. When he, after a while, arose, and reached after his staff, which lay upon the ground, Kurd stepped up to him—the old man started back, as at the sight of an avenging spirit. "Be not alarmed," said Kurd; "I bring glad tidings; your daughter, your Irmengard lives, and is recovered from her wound."

A heavy burden fell from the soul of the Baron Von Hoheneck. He stood some moments motionless; then sank upon the earth, and gratefully raised his trembling hands to heaven. Kurd had expected that the old man would joyfully return with him, but the Hohenecker remained firm to his determination, to spend the remnant of his days in solitude.

"Why," said he, "why should I take upon myself a burden, which I am not strong enough to bear? I have renounced happiness, and I shall only find peace here, where all my hopes and wishes are turned to the future world. Here, knight Von Dachau, take my signet-ring as a witness, that you have found me, and that I acknowledge you as my son-in-law. Cling with faithful love to my Irmengard, and my prayers shall bring down blessings upon you."

In vain Kurd employed all the arts of persuasion to induce the Baron to change his purpose; he tarried several days at the cloister with this design, yet his exertions were fruitless, and he was compelled to return alone.

Irmengard was painfully affected by the intelligence, that she never again should see her father. "So then must I mourn for him, as for one that is dead!" she exclaimed, and habited herself in robes of mourning, and wore them during a year. After the lapse of this period, she first gave her hand to the knight Von Dachau. When she stood at the altar, and the priest pronounced his blessing upon their union, Irmengard thought that she saw the form of her father by the side of the holy man who performed the ceremony, and that he nodded kindly to her. She had presence of mind not to interrupt the holy rite by a sign of alarm. But when the newly married left the chapel on their way to the castle, a messenger met them with the intelligence of the death of the Baron Von Hoheneck. His departure had been sweet, and his last words a blessing upon his children.

First Annual Report of the Geology of the State of New-Hampshire, by Charles T. Jackson, State Geologist, 8vo. Concord, N. H. 1841—164 pages.

BY T. ROMEYN BECK.

We are pleased to find that yet another state has engaged in the noble work of developing its natural resources. To those who duly appreciate the importance of this matter, and the number of such is daily increasing, nothing can be more gratifying than the fact stated by Dr. Jackson, that no less than *twenty* among the *twenty-six* states in the Union, have either made such surveys, or have them now in progress.

A brief notice (which we shall give in nearly his own language) of some of the useful minerals of the "Granite State," will best illustrate the value of the report of our author.

Granular Quartz. This mineral abounds in various parts of the state, but at present is wrought only in the town of Unity. It is ground to powder in a common grist-mill, furnished with granite millstones. Mr. McClure prepares three sizes by means of a bolting machine, which sizes correspond to sand paper Nos. 1, 2, 3. About thirty or forty tons of this bolted quartz are annually prepared and sold for twenty dollars per ton, to the sand paper makers of Rockingham, Vermont. A finer powder is also prepared, equal to emery for all ordinary uses in polishing metals, and sold at 12½ cents per package containing one pound.

The same kind of granular quartz which serves for the manufacture of sand paper, will also answer for the manufacture of rifles for sharpening scythes. "It is also a good substance for mixing with paint, in order to encrust the pillars of public buildings so as to prevent injury from the knives of idlers."

Dr. Jackson has also mixed it with fine clay in the manufacture of crucibles and muffles, and ascertained it to be of excellent quality for that purpose. It has a very sharp grit, and is one of the best materials for sawing and grinding marble.

The refuse granular quartz is also used in the manufacture of glass.

"It must be remembered that only a few years have passed since granular quartz was ranked among the *useless* minerals." Now, in the locality just mentioned, when quarried in masses, it is worth, on the spot, $1,50 per ton; ground and not bolted $5 per ton; bolted, $20 per ton.

Mica is obtained in large quantities in the towns of Alstead and Grafton, where regular quarries are wrought for the purpose of extracting it from the coarse granite rocks. The owner of the Alstead quarry sells from 800 to 1000 dollars worth per annum, at the rate of from 2 to 3 dollars per lb. He supplies the Boston market with a large quantity. The Grafton quarry is wrought by persons resident in Boston, and their principal market is New-York. They quarry and sell about $1,000 worth per annum, and obtain from $2,50 to $3 for the trimmed plates suitable for use. The rough irregular plates are sold at prices varying from one to two dollars per lb.

Formerly we depended upon the quarries of Russia for this valuable mineral, and it was known in the market under the name of Muscovy talc, or isinglass. It is employed on board the Russian ships of war in the place of glass, and has the advantage of not being broken by the concussion produced on firing cannon. In this country we employ mica for the manufacture of lanthorns, and those of the Boston Fire Companies are generally made of New-Hampshire mica. It is used also for stove windows, and for the manufacture of cards, for the mariner's compass, it having the property of never warping by moisture or dryness. The best compasses are made of a single clear plate of mica, under which the magnetic bar is secured, and on the upper side the printed plate bearing the cardinal points, is pasted.

Plumbago or *black Lead* is obtained in numerous parts of New-Hampshire, but the beds are generally of small dimensions. There are about 20 tons an-

nually obtained from the mines of Goshen, at prices varying from three to five cents per pound. It is used for the manufacture of melting pots, employed by copper founders.

Soapstone of excellent quality exists in Francestown, on the estate of Daniel Fuller Esq. It was discovered by him accidentally in 1794, while engaged in ploughing his field. He observed that the plough and harrow did not make any gritting noise in passing over this ledge, while it did on the others, and on examining the rock, found it to be a soft variety of soapstone. It was first wrought in 1802, and was transported to Boston for sale in 1812. Since that time, the value of the stone has been steadily increasing, and it is now in greater demand than ever.

In its widest part, the bed measures 40 feet in thickness, and it narrows to the south-westward to 20 feet. In the middle it measures from 25 to 30 feet. It has been quarried to the depth of 40 feet, but the natural drainage keeps the quarry free from water only to the depth of 36 feet. The length of the bed, so far as it is exposed to view, is 400 feet.

The mode of quarrying freestone, which is here employed, is to saw out the blocks by means of large cross-cut saws, so as to obtain sound blocks, and to waste as little as possible. Mr. Fuller proposes to erect a small steam engine, so as to pump out the water from the quarry, and the same engine will drive saws for manufacturing the stone into slabs. The usual sized blocks now obtained, measure 6 feet by 3, and 7 feet by 5. Twelve cubic feet are estimated to weigh a ton, and the cost of quarrying is from seven to ten dollars per ton. About 250 tons have been quarried and sold in a year, in the most favorable times. It is transported by teams to Nashua, and sent from thence to Charlestown, or is sent directly to Boston in wagons. The expense of transportation to Boston (60 miles) is $7,20 per ton. The stone sells in Boston for $3, or $3,50 per cubic foot. It is extensively employed for making fire place grates, boiler tops, stoves, sinks, funnel pipes, and for rollers used in dressing cotton warp in the factories. These rollers are made 4½ feet long, and from 5 to 6 inches in diameter. Soapstone is preferred to all other materials for the above mentioned purpose.

There are also inexhaustible beds of *Limestone* at Haverhill and Lisbon.

Among the metals, *Iron*, of course, is of the first importance. Of the various localities, that of Franconia is the most noted. It consists of granular magnetic iron ore, and is found in a vein from three and a half to four feet wide, included in granite rocks. It has been opened and wrought 40 rods in length, and 144 feet in depth. The ore is blasted out. The mine is wrought open to day light, and is but partially covered, to keep out the rain. The first attempt to work this bed was made in 1805, when a forge was erected and bar iron made. In 1811 a blast furnace was erected, which has been kept in operation since that time, and produces from 250 to 500 tons of excellent cast iron per annum. This is partly sold in the form of castings, and a part is converted into bar iron at the forges. From 100 to 140 tons of bar iron are made per annum. The furnaces are kept in blast from 16 to 26 weeks at a time. The ore yields 55.12 per cent of iron.

The iron ore of Bartlett deserves attention, from containing a minute portion of manganese, which, according to the celebrated Swedish chemist, Berzelius, has a favorable influence on the conversion of the iron into steel—as the oxide of manganese, giving out a portion of its oxygen, tends to reduce the portion of carbon which enters into the composition of cast-iron, so as to bring the iron into the condition of steel. The Bartlett iron ore consists, according to analysis, of

Peroxide of iron,	69.4
Quartz and felspar,	25.2
Oxide of manganese,	2.7

69.4 of peroxide contain 48.117 per cent of metallic iron.

Copper, *Zinc*, *Lead*, and *Arsenic* have also been found in various places, but the most interesting discovery made by Dr. Jackson, is that of *Tin*, a rare metal, confined to a few remarkable localities on the face of our globe.

Dr. Jackson had ascertained on a former occasion the existence of arsenical pyrites in the town of Jackson, and during his present visit it was thought proper to examine the vein, in order to find out its extent and value. He engaged an individual to have the ore blasted out, and on searching for crystals of arsenical cobalt, he discovered a small vein of copper pyrites and crystals of oxide of tin. Besides this form, he also found the compact and the granular varieties intermixed in the mass.

By washing the ore in a manner similar to that used in large works, a portion of the rock is removed, and the ore then yields on the average 30 per cent of pure tin, and when more thoroughly cleansed, it gave 50 per cent.

It is to be hoped that the search for other veins will be continued. Having proved in the most decisive manner, and by numerous experiments, the presence of tin, it only remains to ascertain whether the quantity will be sufficient to warrant its working. "It is highly probable, since oxide of tin has not the slightest metallic appearance, that it has been overlooked by people who are not familiar with minerals."

TEMPERATURE OF THE EARTH.

BY JOHN A. DIX.

In our first number we alluded briefly to some observations, which have recently been made in England with regard to the increase of the temperature of the earth at increased depths below the surface, with an intimation that we might in a future number, give the results. We now propose to do so; but a few preliminary remarks as to the results of previous observations may not be inappropriate.

The progress of physical science since the commencement of the present century, has led to the observation of a multitude of important facts, and is gradually establishing upon the solid foundations of knowledge theories, which, for the most part, rested upon mere hypothesis, or vague conjecture. Nothing can exceed the ardor and perseverance, with which the physical structure of the earth has been investigated. Wherever it is possible for man to go, he has gone in the prosecution of his inquiries. The loftiest heights have been scaled, and the profoundest depths fathomed; the burning rays of an equatorial sun, and the perpetual frosts which surround the polar regions, and doom them to eternal barrenness, have been braved to minister to the objects of science. With every fresh accession of facts, some unsound theory has been exploded, or some previous observation confirmed. The physical condition of the earth's surface is known. The principal geological formations have been reduced to a regular order and system; and, in this branch of inquiry, it remains only to fill up by careful observation the details of the great outline, which has been drawn. But we are not content to know merely what is the condition of the surface of our planet. We ascend to the highest peaks to make observations upon the atmosphere, which surrounds us, to ascertain its temperature, and its density, and see wherein they differ from its condition in these respects at lower planes of elevation. We descend into the deepest artificial excavations to ascertain whether the materials, of which the crust of the earth is composed, exist in modified conditions below the surface, and to enable us to determine by deduction from the facts we thus obtain, what is the state of our globe at depths, which we are unable to penetrate. It is not for the purpose of gratifying an idle curiosity that the dangers and toils, inseparable from these observations, are encountered and overcome. Experience has taught us that whatever tends to increase our knowledge of the condition of the earth we inhabit, not only elevates our intellectual and moral character, but augments our physical power and social prosperity, by teaching us how to turn to the best account the mechanical forces, which nature has placed at our disposal. It is principally through the influence of this conviction that all this activity has an existence. It is the spirit of improvement that puts the vast machinery of scientific observation in motion, collects its results, and makes an assiduous and efficient application of the principles thus obtained to the practical uses of life.

Among the most interesting observations, which have been made during the last century, are those that relate to the temperature of the earth. Though the connection of these inquiries with purposes of practical utility, may not at first glance be obvious, we have only to advert to the extraordinary and unexpected augmentation of human power, which has resulted from a knowledge of the expansive force of steam, to be convinced that a familiar acquaintance with the nature of the materials, which compose the interior of the earth, and the conditions, under which they exist in combination, may be converted to beneficial uses.*

It was discovered in the latter part of the 17th century, that the temperature of the earth, in the caves under the observatory at Paris, continued uniform throughout the year. This fact was confirmed by repeated experiments during the 18th century, in the latter part of which a continued series of observations was undertaken by Cassini and Lavoisier; and it was shown, that at a certain depth, the temperature had remained unaltered for half a century. The plane at which this stability of subterranean heat exists, is termed the invariable stratum, or the plane of invariable temperature. In Paris it was fixed at 30 yards, or about 92 feet below the surface; and at this point the variation of the thermometer in the course of the year did not exceed one-sixteenth of a degree. At this depth the temperature was 2° 16 Fahr., higher than the mean temperature at the surface of the earth; showing an increase of temperature of 1° to about 46 feet of vertical descent. Above the invariable stratum the temperature of the earth varies with the seasons—with the increase and decrease of the intensity of the solar heat; but below it these variations cease, and a constant increase of temperature is found in descending. In 1827 M. Cordier published the results of observations made by himself and others with regard to the increase of subterranean heat below the plane of invariable temperature. These observations have been made in mines, which afford the deepest excavations, and they give the following results. 1. The temperature of the earth at given depths below the invariable stratum is uniform for years. 2. Below the invariable plane, or stratum, the temperature increases with the depth. 3. The rate of the increase of temperature below the invariable plane differs at different places.

The observations to which M. Cordier refers, had been, principally, upon the temperature of the air and the water contained in subterranean cavities. But in some instances, they had been made directly upon the earth surrounding these excavations. The former are necessarily subject to great uncertainty, and are only to be regarded as furnishing approximate data for determining the increase of heat in descending. It is only when the experiment is made by inserting the thermometer in a cavity but little larger than itself in the solid earth, that the results obtained may be relied on. At the same time, there is a sufficient degree of concurrence, in the testimony furnished by both classes of facts, to settle the principle beyond question, that in all parts of the earth there is a constant, though not a uniform, increase of temperature in descending. In the lead mines of Beshert Gluck, in Saxony, a series of observations made in the water of springs by Mr. Daubuisson in 1802, at the depth of 839 feet, gave a temperature of 56°8 Fahr., and an increase of 1° in 80.3 feet of descent. In 1805 a series of observations in the same mine in rock, gave a temperature of 59° Fahr. at a depth of 853 feet, and an increase of 1° in 84 feet. In 1821 Mr. W. Fox found at a depth of 1440 feet in the copper mine of Dolcoath in Cornwall, a temperature of 82° Fahr. in water and an increase of 1° in 44.9 feet. In 1822 the same gentleman found in rock at a depth of 1380 feet in the same mine, a temperature of 75° 6 Fahr., and an increase of 1° in 56.7 feet; and in 1821 he found in rock in the United Mine of Cornwall, the extraordinary temperature of 88° Fahr., and an increase of 1° in 30.3 feet.*

* The following extracts, which we have translated from a paper presented by M. Jobart, of Brussells, to the French Academy of Industry, and published in Vol. 2, No. 23 of their Journal, allude to some of the practical benefits to be anticipated from an appropriation by man, of one of those inflammable substances, which are generated by natural processes in the bosom of the earth.

Burning Wells.—Every one knows that carburetted hydrogen gas, which is disengaged from coal mines, sometimes comes to the surface of the earth, where it can be appropriated and used for light. On the shore of the Black Sea, (the country of the Guebers,) in China, in America, and in Italy it is not uncommon to find natural springs of gas. It appears to us that it would be sufficient to perforate a certain thickness of coal, the gas of which might be collected in a tube, and form, in rising, an artificial spring like those, of which nature has furnished us with the model.

It is suspected in Europe, and has been ascertained in China, that under the upper beds of bituminous coal, other beds of anthracite may be found of greater extent and of earlier origin. It is from their bosom that currents of gas escape, forming those burning wells, which in China are used to evaporate salt water extracted from other wells. The roaring of one of these subdued volcanoes may be heard at a distance of two leagues.—More than three hundred boilers are kept in constant ebullition by the gas, which it furnishes, while the rest escapes in prolonged flames outside of the building.

The interior of the earth being probably every where the same, it would not be surprising if we were to succeed in producing similar phenomena, which we should know how to turn to far better account, by employing them in propelling steam engines, in warming or lighting cities and villages, or in replacing those vegetable and mineral combustibles, the scarcity of which begins to be more seriously felt from day to day.

Earthquakes.—The origin of earthquakes is now nearly settled; and, if they are produced by the explosion of gasses contained in subterranean caverns, it is certain that they may be prevented by perforations, which will permit those gasses to escape, as we prevent a cask of new wine from bursting, by making in it a vent, through which the carbonic acid gas can pass off. This idea is not new; for the celebrated philosopher Beccaria, having been sent to Alba-Pompeia, which was desolated by earthquakes, opened some pits, which put an end to this scourge.† Moreover it is an observation long since made, that countries which have become cavernous by mining, are much less subject to earthquakes than others."

* M. Cordier's essay on the temperature of the earth.

† On reading this remark, the celebrated Vidaure expressed the greatest joy in finding it to coincide with his own opinion, resulting from observations made five thousand leagues distant, in the prisons of Lima.

Among the more recent observations which have been made are those of Dr. Magnus, of Pitzpuhl, about 9 miles from Magdeburgh, one of the Prussian states;* at a depth of 150 feet he found a temperature of 49°77 Fahr., and at 457 feet 56°63 Fahr., showing an increase of about 20°25 Fahr. in every hundred feet, and corresponding almost exactly with the Paris observations. In May, 1837, a series of observations was made by M. Arago, in a well, at the slaughter-house of Grenelle, at a depth of 1312 feet, which the boring had reached. The average temperature ascertained by four different in-instruments was 74° 3 Fahr., showing an increase of 1° Fahr. in 56.51 feet of descent, the main temperature of the surface of the earth being 51° 08 Fahr. It is determined by the city of Paris to carry this boring to the depth of 2295 feet, at which it is supposed that a temperature of from 93° to 95° will be found;† and if so, it is intended to use the water which may be obtained, for hot baths, &c.‡

In respect to the increase of subterranean temperature, the principal problem to be solved is, whether in descending at the same point the increase bears a uniform, or a nearly, uniform ratio to the increased depth; that is, if in descending 46 feet immediately below the invariable stratum an increase of temperature equal to 1° of Fahr. is found, whether a similar increase of 1° will be found in the next 46 feet of descent. If it be so, our reasonings with regard to the condition of the interior of the earth, lead us to conclusions of the highest interest. At about 2600 yards (or a mile and a half) below the surface there will be found a degree of heat, at which water will boil; at about 62 miles, which is supposed by M. Cordier to be the mean thickness of the crust of the earth, the extraordinary temperature of 7000° Fahr. must exist—a sufficient degree of heat, probably, to fuse lavas and earths; and if the same rate of increase were maintained, there would be at the centre of the earth a temperature equal to 450,000° Fahr. The increase of heat in descending, if past observations are fully confirmed, must go far to establish the theory, now generally though not universally received among geologists, of the existence of internal heat of inconceivable intensity. A different theory has recently been started by M. Poisson, in a work entitled "Théorie Mathématique de la Chaleur," published in Paris, in 1835. An account of this theory was given in Silliman's Journal in 1837, through a translation of a paper presented by M. Poisson, to the Academy of Sciences of Paris, in January, 1837. It repudiates the doctrine of central heat, which has been adopted by Laplace, Fourier and most other scientific men, and assumes that the temperature of the earth increases to the depth of 7000 mètres,§ (22,966 feet, or about 4 1-3 miles,) at which he supposes the temperature will exceed that of the surface by about 107°, centigrade (224°60 Fahr.,) and that below this point it will diminish to the depth of 60,000 mètres from the surface, (196,853 feet, or about 37¼ miles,) when the influence of the inequalities of the temperature of the regions of space traversed by the earth will disappear.

The doctrine of central heat is also ably and ingeniously controverted by Mr. Lyell, in his Principles of Geology. Phila. Ed. of 1837, Vol. 1, Page 452, et seq.

The observations of Mr. Fox and Mr. Hodgkinson, which are given below, seem to show that the rate of increase is greater near the surface than at lower depths, and they are, in that respect, opposed to the results obtained by antecedent observers. Mr. Fox, for instance, shows below the plane of invariable temperature an increase of 10° Fahr. at succesive descents of 300 feet, 430 feet and 686 feet, or an average increase of 1° in 30 feet at the first station, 1° in 43 at the second, and 1° in 68 at the third. But it will be perceived that the president of the association and Prof. Forbes account for the disagreement in the particular referred to between these results and those heretofore noticed, by the fact that both these gentlemen reckoned their descents not from the surface as they should have done, but from the plane of invariable temperature.

On the whole, the observations of Messrs. Fox and Hodgkinson confirm the results of preceding investigations; and Mr. Fox's report shows the remarkably high temperature of 80° Fahr., (4° above summer heat,) at 246 fathoms, or 492 yards, (1476 feet,) below the surface—the greatest depth we believe, with two exceptions, to which the earth has been penetrated. With a similar rate of increase, the point of boiling water would be reached at about 2700 yards below the surface. The observations in the two cases so nearly correspond as to show an increase of 21° Fahr. in 480 yards of descent in the latter, and of 30° Fahr. in 492 yards in the former,—equal to a difference of 8° in 492 yards of descent. They were made in different counties in England, and the increments of temperature, as has long since been ascertained, vary at different places from the influence of local causes.

In the prosecution of these inquiries the cause of science cannot at present be much further aided by availing itself of excavations made for mining purposes. Many of these excavations have reached, or are reaching, a depth at which the temperature is nearly as high as is compatible with active operations. In the close atmosphere of a mine, from one to two thousand feet below the surface of the earth, with a temperature of 80° to 100° Fahr. laborious exertions must be almost impracticable. But new applications of mechanical power may, by substituting machinery for manual labor, enable us to make still lower descents, and avail ourselves of the mineral treasures which may be found at depths greater than any, which have heretofore been reached.

* New Edinburgh Journal, vol. 25, page 204.

† New Edinburgh Journal, vol. 25, page 224.

‡ By the following extract from a recent French paper, it appears that the boring has been carried more than 500 feet deeper, and that all the expectations of the projectors have been realized.

"On the 26th of February, at 20 minutes past 2, the water spouted up from the Artesian well which has been boring at the *Abattoir de Grenelle;* this water is tepid, which it was very natural to suppose was the case, on account of the temperature of the deep layers which have been reached. The depth of the well was 560 mètres, 1,837 feet. This result, which has cost more than 160,000 francs, is the fruit of a hard, persevering work of several years, and solves a geological problem of the greatest importance, that of the existenee of water under the immensc banks of green chalk of the basin of Paris. The temperature of the well is 86 Fahrenheit."

§ The French mètre is 3·2808992 English feet.

MR. FOX'S REPORT ON "SUBTERRANEAN TEMPERATURE."

Early in the year 1815, my friend, Joel Lean, stated to me his conviction that the high temperature observed in our mines existed in the earth itself, increasing with the depth; and shortly afterwards his brother, Thomas Lean, at our joint request, kindly made many experiments in Huel Abraham Coppermine, of which he was the manager, in order to test the correctness of his view. The result obtained by him tended to confirm it very unequivocally; and so did another series, made in the same year, at my request in Dolcoath mine by John Rule, Jr., one of the superintendents. Many other individuals have since obligingly carried on similar observations for me in different mines, all showing that the subterranean temperature increases in some proportion to the depth of the stratum. The ratio of its increase at different depths, and the causes which exercise a greater or less influence upon it, have however, been hitherto undecided. I have already endeavored to show that the rate of increase is not so considerable at deeper excavations as those which are shallower, and the tables subjoined will exhibit this point in a satisfactory manner as far at least as the results obtained in some of the mines of Cornwall and Devonshire, which I have published from time to time, may be considered as authority. The first table contains results obtained in the deepest galleries and accessible parts of mines, a few only excepted, in which case the experiments were made with great care in the rock at superior levels and at a distance from other excavations. Some reasons for preferring the former to the generality of results derived from the upper parts of mines, have been stated on previous occasions; and they appear to be so obvious as to render repetition needless. The second table shows the temperature observed in the rocks, rubbish, water and ore, in various mines at different depths, but not in the lowest excavations. It will not, therefore, perhaps be considered to possess much value, beyond what is derived from the great number of the results, and the probability that the mean which they indicate may be an approximation to the truth. The figures only are given, without any details, and are to be found in my papers in the Transactions of the Cornwall Geological Society, and in the Lond and Edinb. Phil. Mag. (XI, 1837.) Many of the observations, even in the first table, may perhaps now be considered very imperfect, having been obtained when the enquiry was in its infancy. The method I which have more recently adopted, of having the bulbs of different depths at the bottom of a mine appears to be as unexceptionable as the circumstances of the case will admit of; but in fact, I have always considered, that the best experiments on subterranean temperature, influenced as it is by so many disturbing and conflicting causes, can be regarded as affording only approximation to the truth, and in a greater or less degree, in proportion as they are more or less numerous, and made in different localities. I have taken the mean temperature at 50° Fahr.; and it is, I think, clearly not more than this in the mining districts of Cornwall and Devon, judging from the experiments I have instituted on the temperature of the ground at three different stations, at the depth of 3 feet, which give a mean of 49° 86 for the year, at a mean elevation of about 240 feet above the level of the sea, and also from meteorological registers keep in the neighborhood, some of which appear in the Cornwall Polytechnic Society's Reports. Moreover, the water accumulated in some stopped mines of inconsiderable depths, has been found at 51 and 52 deg. In estimating the ratios of increase of temperature, I have assumed the depth of ten fathoms under the surface at *zero*, or the point where the mean temperature of the rock or country is equivalent to that of the climate: possibly it may occur at a rather less depth than this on an average, but doubtless it differs much in this respect in different localities, according to the nature of the rocks, and the greater or less degree in which they are intersected by faults and veins, Upon the whole, I am of opinion that I do not much err, in supposing a temperature of 50° to exist at ten fathoms deep in our mining districts, most of which are at a considerable heighth above the sea level. Here follow the tables of observations, and the report proceeds to state the results. The first table gives a tolerably consistent rate of increase of temperature, as it respects the rock or rubbish, and the water and air. The mean is 18°·09 at 110 fathoms deep, or 100 fathoms below zero; 20°·09, or 10° more, at 210 fathoms deep, or 100 fathoms deeper—the augmented temperature of the first 100 fathoms being to that of the second, in round numbers at 18·10. In the last columns are included all the results obtained in the rock, water, and air, with the exception of a few, which seem to be in unusual excess; and they give, in round numbers, a temperature of

60° at 60 feet below the surface, or 50 feet below zero.
70° at 132 do. do. 122 do. do.
80° at 246 do. do. 236 do. do.

Being an increase of 10° at 50 fathoms below zero.
10° more at 72 fathoms deeper.
10° more at 114 fathoms still deeper.

The second table exhibits similar increments of temperature at intervals of about 37, 78, and 126 fathoms of descent.

The comparative augmentation of temperature at small depths exhibited in this table, and its reduction at greater depths, may perhaps be more or less attributed to the ascent of warm air and vapour from the deeper galleries of the mines, and the descent of colder currents into these parts.

Mr. Fox long since suggested, that the differences found to exist in the increments of temperature in different places and strata, are powerfully caused by the circulation of water under the surface; and the tendency of warm water to ascend through cooler portions of that fluid, is quite consistent with the fact of the ratio of increase being greater at small than at considerable depths. Wherever the facilities are the greatest for the ascent of these currents,—such, for instance, as exist in veins, faults, or fissures in the strata, and frequently at the junction of different rocks,—there the subterranean temperature is usually found in excess, or about the mean. Thus, the more fissures and cracks in killas than in granite by permitting water to infiltrate, and then the water warmed below to ascend into the colder water, will raise the temperature of the killas above that of the more compact granite at the same depth. Mr. Fox illustrates this position by examples taken from the tables, and adds, that the effect is, he apprehends, promoted by the agency of electricity, which is in active operation in metalliferous veins, the feeblest voltaic arrangement being capable of transmitting water, especially if it contain saline ingredients, through the most tenacious clay, in any direction, horizontally or vertically. He concludes the report with the expression of a hope, that the ratio of the increase of subterranean temperature may be more fully investigated, not only in this country, but also in others, where the climate and zero of temperature may be most dissimilar, and suggests, that a request from the British Association to the mining companies of this country and of America, would probably be attended with the happiest effect. The Russian, Swedish, and other governments, he thinks, might also be readily engaged in the undertaking.

The PRESIDENT noticed the agreement of the results with those of other observers, and stated, that the apparent discrepancy in the high rate of increase near the surface, and the diminution of that rate, as he descended, observed by Mr. Fox, arose from his having taken his point of commencement at ten fathoms, or sixty feet, beneath the surface, whereas he should have reckoned from the very surface, for the *mean* temperature of the surface and of the air at the surface were the same.

"ON THE TEMPERATURE OF THE EARTH IN THE DEEP MINES IN THE NEIGHBORHOOD OF MANCHESTER," BY MR. EATON HODGKINSON.

Mr. Hodgkinson having, some years ago, received from Prof. Phillips four thermometors belonging to the Association, got through the kindness of the proprietors of the following pits, and the other parties connected with them, experiments made upon the temperature of the earth in each of them: The salt rock pit, 112 yards deep, belonging to the Martson Salt Company, near Norwich, Cheshire; the Haydock Coliery, 201 yards deep, near to Warrington; the Broad Oak Coal Mine, 329 yards deep, near to Oakham. In the latter pit, a thermometor placed in a hole three feet deep, bored in "metal," and closed at the aperture, was examined weekly by Mr. Swaine, for twelve months, the temperature varying from 57° to 58½° Fahr. it being lowest from the beginning of February to the middle of May, and highest in September and October, to the middle of November. The experiments above mentioned were made in 1837 and 1838, and results mentioned at the Birmingham meeting; but the Broad Oak Pit having been increased in depth since that time, a thermometer was inserted in it, in a hole bored in the metal, as before.

It was in a place 408 yards deep, and indicated a temperature of 61°, remaining nearly constant for twelve months. Mr. Fitzgerald being recently engaged in sinking a deep coal pit at Pendleton, two miles from Manchester, Mr. Hodgkinson conceived this to be a favorable opportunity for getting additional information on the subject of substerranean temperature, and, on his application to the proprietor, the engineer (Mr. Ray) readily made for him, during the sinking of the pit, and afterwards in the workings, the experiments of which the results are below. At 418 yards from the surface, the temperature, in a hole from three to four feet deep, bored in a dry rock, was 66°; at 450 yards deep it was 67°; and 480 yards it was 69°. In the workings at 461 and 471 yards deep, it was in both cases 65°. The temperature of the air at Manchester, according to Dr. Dalton's experiments, is 48° Fahr.; and as the pits above mentioned are not very far from Manchester, the mean temperature of the earth at the surface of each of them may be considered as 48°. With that supposition, the distance sunk for each degree of Fahrenheit moved be as below:

In the Rock Pit,		32 yards.	
Haydock Coal Pit,		20 "	
Broad Oak Pit,	33·7	32·5 "	= mean.
	31·4		
Pendleton Pit, (shaft,)	23·2	23·2 "	= mean.
	23·7		
	22·8		
" (in workings,)	27·1	27·4 "	= mean.
	27·7		

The mean from the whole being 27 yards for each degree of temperature.

The PRESIDENT remarked, that Mr. Hodgkinson's results gave the rate of increase of temperature greater near the surface, and then decreasing, which did not agree with the results of other observers: this, he conceived, arose from nearly the same cause as that already remarked upon when Mr. Fox's report was under consideration. Mr. Hodgkinson commenced to reckon his descents or depths, not from the surface, but from the plane of invariable temperature, which in these latitudes was not far from sixty feet. Prof. FORBES illustrates simply by a diagram how this caused the rate of increase at first to be too high, and then diminish. He then alluded to the frozen soil of Siberia, gave a description of it, and said, that it had been sunk through to a depth of 382 feet without being penetrated—that is, without reaching a temperature of 32°, although the temperature of the surface was not below 18°. In this case, the rate of increase was rapid.

[For the Northern Light.]

YOUNG MEN'S ASSOCIATIONS.

BY G. R. FAIRBANKS.

THE principle of associated action seems to be the Archimedan lever of the age; to it we owe much which distinguishes our own day and our own age beyond that which has preceded us—a natural impulse of the human being, it seems seldom to have been rightly directed in times past; in view of its accomplishments during the present we may well look forward to the greatest results from its future action. The chivalric spirit which heralded the revival of the arts and literature in Europe, owed much of its force to the knight brotherhoods of the day,

which, associating the noble hearted and the brave in the bonds of companionship, introduced a nicer sense of honor and regard for truth and despised not the accomplishment of letters. Formed for the furtherance of certain objects, when those objects were removed, they were dissolved.

The young men of the present day are associating in nobler brotherhoods, and in a better spirit of knight errantry are combatting the forces of ignorance, and successfully endeavoring to elevate themselves in knowledge and intelligence. The formation of Young Men's Associations for mutual improvement, is one of the most important steps which has been taken towards diffusing the light of science throughout the mass of the people. They comprise no peculiar class, but embrace all, without distinction, and shower their blessings alike upon the poor and the rich; a perfect democracy of knowledge. The barriers which pride and prejudice have raised between young men differing in their occupations and pursuits, are battered down, and a warm feeling of mutual interest and mutual dependence has caused new ties to spring up between them like the clanships of the kilted mountaineer.

There is a strong tendency to sociality in every class of mankind, but more particularly in the young; in the dawn of their bright hopes and happy expectations, in the confidence and trust of their earlier years, ere experience has blighted, or selfishness and disappointment soured, they cling to each other with a friendship and an affection honorable to human nature. Wherever this feeling can be directed aright, the happiest results are sure to follow. The vehemence and impetuosity which hurry them reckless and headlong into vice and folly when engaged in the pursuit of a good object, causes them to overlook the minor obstacles in their path, and see only the glorious end to be attained.

The history of the Young Men's Associations in this State, presents a gratifying instance of the success of well directed exertion. A Mercantile Library Association with its Library of twenty-five thousand volumes, speaks well for the perseverance and liberal taste of the clerks of the city of New-York. The Young Men's Association of Albany, the pioneer, as it were, of the Young Men's Associations, as at present constituted, reflects great credit on its founders and supporters; and I am sure none have visited its well appointed Reading Room, or viewed its ample Library, or mingled with the mass of intelligent young men who throng its Lectures, who could doubt for a moment the success or permanency of the institution. Troy, Hudson, Schenectady, Utica, Rochester, Geneva, &c., have followed in the successful enterprise, and their institutions are creditable to the young men who have formed them, and the friends who have cherished and assisted them. Each year adds to their number and their usefulness.

For the furtherance of their noble objects, a State Young Men's Association completes the bond which connects the young men of the State of New-York in a fraternity more honorable than any evidenced by star or garter. Unity of action between all the Associations in the State, is highly desirable, facilitating their intercourse, collating each others views and plans, and promoting a spirit of brotherhood, an *esprit de corps* which throws new interest around these institutions. Much could be done through a State Association, towards forming cabinets, exchanging specimens, and digesting measures of interest to all. It is hoped that all the Associations in the State will be well represented at the annual meeting of the State Association at Geneva in September next.

Watertown, June 1841.

[For the Northern Light.]

POETRY.

[Translated from the German of J. G. Von Salis.]

BY JOHN DOWDNEY.

THE poetry of Salis is characterized by deep feeling, and although deficient in that beauty and vividness of imagination which are the peculiar merit of the German writers, deserves a place in the highest class of lyric poems. He seems to have written from the fullness of a heart that knew the sadness and sorrow of earth. As he muses on the past, his plaintive notes often run into a strain of melancholy. There is much deep and philosophical thought in his verse, and many of his little pieces are singularly expressive of those emotions which we feel when conscious of our real want, as the creatures of eternity.

Salis, it is said, is not a general favorite. This may be a reason why his poetry is so little known. The neglect may also be owing to that disinclination which many have for writings of a melancholy cast. The following sketch of his life, taken from Taylor's Historic Survey of German poetry, may not be unacceptable to your readers:—"Johann Gaudentz Von Salis was born in 1762, at Seewis, in the Grisons, and placed by his noble relations in military service. At the beginning of the French revolution he was a Captain in the Swiss guard at Versailles; but served as a private in the lines under the command of General Montesquien during the conquest of Savoy. He afterwards, in 1799 it is said, became Inspector-general of the militia in Switzerland, which office compelled a somewhat versatile residence; but he finally settled at Molans, in his native province, where he died a few years after. Lyric and elegiac poetry was the walk in which he delighted to stray. His Hymn to the month of March, his Infancy, and his Sighs for evening, are the most remembered of his productions."

The following little pieces, taken from a small volume published at Stuttgart in 1821, may give the readers of the Northern Light some idea of the style and characteristics of Salis. In rendering them into English, the translator has endeavored to be strictly literal; preserving, as far as he could, the idiom of the German.

I.

THE GRAVE. 1783.

The grave is deep and still,
Its verge in terror dres't,
It hides with gloomy veil
An unknown land of rest.

They hear not in that ground,
The Nightingale's sweet lay,
And on its hillock's moss,
Those roses soon decay.

In vain the wailing bride,
Wrings sore her hands, alone;
Nor comes within its depths
The orphan's plaintive moan.

Yet no where is man's rest,
But in that grave of gloom;
Through its dark gate he finds
A home beyond the tomb.

The aching heart so press'd
By storms and anguish sore,
Attains the peace it seeks,
Where it can beat no more.

II.

EVENING SADNESS. 1783.

Over the pines gleams Hesper's silv'ry lamp;
Softly the burning redness fades away,
And the trembling Aspen by the still lake
Whistled not loud.

Spiritual forms rise from the twilight
Of memory; floated sad around me
The images of my distant lov'd ones,
And of the dead.

Holy shades! Alas, no living on earth
Can us all unite! Sigh'd I desolate.
Hesper had sunk, the Aspen of the lake
Rustled sadness.

III.

THE SILENT LAND.

Into the silent land!
Who shall guide us thither?
Our clouded ev'ning sky wears now a darker hue,
And ever strew'd with ruins is the fearful shore.
Who guides us with a gentle hand
Thither, Ah! thither,
Into the silent land?

Into the silent land!
To you, ye places free
For holiest improvement! tender morning dreams
Of beautiful souls! fond pledge of future being.
Who life's hard conflict true doth stand,
Shall bear hope's blossoms
Into the silent land.

Ah land! Ah wish'd-for land!
By all the tempest threaten'd.
The mildest of our fate's unyielding messengers
Beckons to us, and safely with inverted torch,
Will guide us with a gentle hand
To the departed,
Into the silent land.

IV.

SONG FOR MARCH. 1784.

Snow and ice are melted now,
Gently swells the meadow's turf,
And the red'ning linden bough
Buds, and tender leaves put forth,
Blows the resurrection breath
Through the verdant blooming fields.

Violets by brooks and lanes
Lose they now their outer band;
Fragrant cowslips deck the plains;
From the furrows shoot the seeds;
And the crocus sweet and yellow
From the garden sand so warm.

All rejoice in life and cheer:
Butterflies that on the trunk
Of the rude notch'd oak adhere,
Gnats that float in airy dance,
Larks that high in ether soar,
Lambkins in the valley deep.

See! the waken'd bees—they swarm
Round the early almond tree;
Joyous too the old men warm
In the sunshine; children shout,
Playing with the Easter eggs,
Through the room with flowers gay.

Spring, ye buds, from branches new,
Spring from moss that covers graves!
Emblem, hope and witness true,
That from earth we too shall rise,
When the breath of endless spring
Us to resurrection wakes.

Albany, July, 1841.

BEN JONSON.

BY JOHN A. DIX.

BEN JONSON, to whom we alluded in a short article on the 45th page of our 3rd No. and of whose poetry we gave a brief specimen, was born at Westminster, in 1574. He was the posthumous child of a Scotch gentleman, who was imprisoned and persecuted on account, as is said, of his religious opinions, during the reign of Queen Mary, and who was in holy orders at the time of his decease, which happened about one month before the birth of his son.

The early life of Jonson, like that of most others who become distinguished by their intellectual labors, was full of difficulty and embarrassment. His father was deprived of his estate, and left his family, as it would seem, without property. His mother, soon after his father's death, married a bricklayer, who, as the youth grew up, compelled him to work at his trade. He was, however, sent to a private school in the Church of St. Martins in the fields, whence he was subsequently transferred to Westminster-school, and supported at the expense of a friend, whose name has been lost in the lapse of time. From Westminsster he went to the University at Cambridge where he was again, as is supposed, assisted by the same friend, who discharged his expenses at school. Yet his means were so inadequate to his necessities, that he was compelled, after a short residence at Cambridge, to return to his mother's house, and to work at the trade of his father-in-law. But such was his distaste for the occupation that he abandoned it, and joined the army in Flanders, as a private soldier, During his military service, he distinguished himself by overpowering an enemy in single combat, and putting him to death in presence of both armies. From the camp he returned again to his maternal home, and one account states that he was a second time at the University at Cambridge for a short period. At the age of nineteen he passed from his studies to the stage—a change not unusual in his time, or, indeed, at a much later day. His principal occupation for some time was in making additions to existing plays, or composing new ones in conjunction with other writers. His acting was said to be bad, and his compositions met at first with no flattering success. His earliest sole production, "Every man in his Humour," appeared in 1596, when he was 22 years of age, and became a popular performance. Considering his age, this production of Jonson carries with it high evidence of genius. Captain Bobadil, who is styled by Barry Cornwall as the best invention of the author, is, according to the same authority, not unworthy "to march in the same regiment with Bessus and Pistol." About this time a new misfortune awaited him. He quarrelled with a fellow actor, who challenged him. Jonson accepted the challenge, slew him, and received himself a wound in the arm. In consequence of this transaction he was thrown into prison on a charge of murder, but was subseqently released, though under what circumstances is unknown. In 1599, "Every Man out of his Humour," was produced, and from this period a succession of plays both tragic and comic appeared, and though they were received with various degrees of success, they gained for him a distinguished reputation. In the first rank stand "Volpone," and "The Alchemyst," though the tragadies of Sejanus and Catiline have a high and peculiar merit. The former of these tragedies was produced in 1603, and it was about this time that Jonson, became a member of the Club at "The Mermaid," in company with Shakespeare, Beaumont and Fletcher, Cotton, Carew, Selden, and others, over whom he was chosen the presiding spirit—an association unsurpassed in any age by genius and talent.

In 1616 Jonson was appointed Poet Laureat in the place of Samuel Daniel, who had succeeded Spenser, and who voluntarily retired to his farm in Somersetshire, where he died in 1619. In the same year (1616) Shakspeare died, and one of the finest tributes to his memory is from the pen of Jonson. Jonson has been accused of envy and illiberality towards his literary cotemporaries; but certainly no man has left on record higher or more numerous eulogiums of those, whom he is charged with treating harshly. He was open, frank and sincere in his opinions, and when he censured, he did so with the same warmth with which he commended in other cases. The poet Drummond of Hawthornden, to whom Jonson paid a visit in 1618, did much to excite prejudice against him, by publishing notes of private conversations between them while Jonson was his guest. Whether he is truly reported or not, there can be but one opinion as to the act of putting on record, even though there may have been no design to give them to the world, sentiments expressed in the unreserved communications of personal friendship.

Various anecdotes are related of Jonson illustra-

tive of his independence of feeling and conduct. Among the instances of this boldness of spirit, it is said that when the King sent him ten pounds during his illness, he returned the following message in reply: "I suppose he sends me this, because I live in an alley; tell him his soul lives in an alley." However characteristic this tradition may be, it can hardly be true either of James or Charles. Charles succeeded his father, James the 1st, with whom Jonson was in high favor, in 1625. During this year Jonson was stricken with palsy. In 1829 he produced his comedy of the "The New Inn," which met with an unfavorable reception. In the epilogue he hints at the neglect, into which he had fallen; and the King immediately respondedto it by sending him a present of £100. This generous present Jonson thus acknowledges:

"*An epigram to King Charles for an hundred pounds he sent me in my sickness*, 1629."

"Great Charles, among the holy gifts of grace,
Annexed to thy person and thy place,
'Tis not enough (thy piety is such)
To cure the call'd King's evil with thy touch;
But thou wilt yet a kinglier mastery try,
To cure the poet's evil, poverty:
And in these cures dost so thyself enlarge,
As thou dost cure one evil at thy charge.
Nay, and in this thou show'st to value more
One poet than of other folks ten score.
O piety, so to weigh the poor's estates!
O bounty, so to difference the rates!
What can the poet wish his King may do,
But that he cure the people's evil too?"

In the following year the King (on Jonson's petition,) changed the salary of Poet Laureat from 100 marks to 100 pounds a year, and added a tierce of Canary, Jonson's favorite wine.

In 1631, through a quarrel with Inigo Jones, Jonson fell into disfavor at Court; but he was ere long restored again, and lived in full prosperity, until 1637, when he died at the age of 63, "a widower and childless." He married in early life, and had a son and daughter, both of whom died young.

Besides the dramas of Jonson, and his epigrams, of which he wrote a great number, he left among his papers his celebrared pastoral, the "Sad Shepherd," which is considered by many as second only to Milton's Comus, an English Grammar, and a miscellany entitled "Explorata or Discoveries." He also composed a variety of masques—a species of light dramatic entertainments greatly in vogue in his day. In one of the latter ("The Vision of Delight,") the following beautiful song occurs:—

"Break, Phant'sie, from thy cave of cloud,
And spread thy purple wings!
Now all thy figures are allowed,
And various shapes of things;
Create, of airy forms, a stream,
It must have blood and naught of phlegm;
And though it be a waking dream,
Yet let it like an odor rise
To all the senses here,
And fall like sleep upon their eyes,
Or music in their ear!"

In person, Jonson was scarcely more prepossessing than the Johnson of the eighteenth century. The following humorous address to his painter, as well as other references of a similar nature to his personal deformities, show that he was not insensible of these, whatever truth there may be in the current opinion of his time that he was vain of his intellect and learning.

"THE POET TO THE PAINTER—AN ANSWER.

"Why, though I seem of a prodigious waist,
I am not so voluminous and vast,
But there are lines wherewith I might be embraced.

'Tis true, as my womb swells, so my back stoops,
And the whole lump grows round, deformed and droops;
But yet the tun at Heidelbergh had hoops.

You were not tied by any painter's law
To square my circle, I confess, but draw
My superficies: that was all you saw.

Which if in compass of no art it came
To be described by a monogram,
With one great blot you had formed me as I am.

But whilst you curious were to have it be
An archetype, for all the world to see
You made it a brave piece, but not like me.

O, had I now your manner, mastery, might,
Your power of handling, shadow air and spright,
How I would draw and take hold and delight!

But you are he can paint; I can but write;
A poet hath no more but black and white,
He knows no flattering colors, or false light.

Yet when of friendship I would draw the face,
A lettered mind and a large heart would place
To all posterity; I will write BURLASK."

Jonson is ranked by Barry Cornwall as second only to Shakspeare as a dramatic writer; and his lighter compositions abound in beauties. We have space only for a single piece of a graver cast than those we have quoted.

"TO HEAVEN.

"Good and great God! Can I not think of thee,
But it must straight my melancholy be?
Is it interpreted in me disease,
That, laden with my sins, I seek for ease.
O be thou witness, that the reins doth know
And hearts of all, if I be sad for show;
And judge me after: if I dare pretend
To aught but grace, or aim at other end.
As thou art all, so be thou all to me,
First, midst and last, Converted One and Three!
My faith, my hope, my love: and in this state,
My judge, my witness and my advocate.
Where have I been this while exiled from thee,
And whither rapt, now thou but stoop'st to me?
Dwell, dwell here still! O being every where,
How can I doubt to find thee ever here?
I know my state, both full of shame and scorn,
Conceived in sin and unto labor born,
Standing with fear and must with honor fall,
As destined unto judgment after all.
I feel my griefs too, and there scarce is ground
Upon my flesh to inflict another wound:
Yet dare I not complain, or wish for death,
With holy PAUL, lest it be thought the breath
Of discontent; or that these prayers be
For weariness of life, not love of thee."

As a writer Jonson was eminently distinguished for originality, vigor of style, and learning. His powers of satire were unrivaled, and he assailed the vices and follies of his age with unsparing severity. His serious writings are not less remarkable for strength and depth of thought, than his lighter ones for brilliancy, wit, and shrewd observation. He was a jovial companion, and a sincere and warm-hearted friend. The age which succeeded him, undoubtedly judged him harshly—certainly as to his moral attributes; but the present has furnished more than one biographer, who has done him full justice. No one who becomes familiar with his writings, and his history, but will feel and acknowledge the truth of his simple epitaph—"O, rare Ben Jonson!"

HEINRICH HEINE.

BY MATTHEW HENRY WEBSTER.

HEINRICH HEINE, best known as the head of "Das Junge Deutschland," or the democratic in opposition to the aristocratic party, was born at Dusselsdorf, in 1797. He received a very careful education. The events of his youth—namely, the triumph and fall of Napoleon — exerted a strong and lasting influence upon his poetical mind, and very early directed his attention to the wonders of history. At an early age he was sent to Hamburg to pursue a commercial career. But commerce, money-making, and figures were distasteful to him, and after some time he obtained permission to abandon them for the study of law, which he pursued at Gottingen, Bonn, and Berlin. In 1822, he published a volume of Juvenile Essays, and since then has been almost constantly before the public, either as dramatist, poet, journalist, traveller, historian, and as a satirist and politician. He resides at Paris, and is alike devoted to French journalism and German poetry. He is undoubtedly a great poet, among the greatest of the present generation, for he possesses a fine imagination and sometimes a rare sweetness and delicacy of feeling; his wit is brilliant and shining—his style as melodious as a fairy song; but with all these eminent qualities he wants that—without which he could never become the first poet of a new era, or even the leading star of his party—intellectual purity. His conceptions have nothing which elevates the mind, for he always displays himself at variance with the world, and considers his various talents not as the virgin attendants of his muse, but as the fettered slaves of his scorn.

He is a powerful and energetic satirist, but he is too often personal, and disdains no weapon for the gratification of his love or his hatred. He has, consequently, embittered his enemies, and they in turn have not been sparing of him—much of wicked and malicious falsehood has been circulated respecting his character as a man. But it is totally groundless. Those who know him well, declare him to be a noble minded man, a faithful friend, and a sincere worshipper of all that is really great and sublime. His devotion to the cause of the people which has injured him in Europe, will most assuredly not prevent Americans from admiring such of his writings as are deserving of it.

The following is a nearly literal translation of one of his minor poems:

I.

From olden tales there beckons
With pale and shadowy hand,
There singeth and there tinkleth
From out th' enchanted land:

II.

Where varied flowers are blowing
In golden even-light,
And sweetly smelling, glowing,
Like bride on bridal night:

III.

Where the green trees are singing
The melodies of old,
The breezes softly ringing
Through plumages of gold:

IV.

And vap'ry figures glancing
Full form'd from out the earth,
Their airy rounds are dancing
With wondrous choral mirth:

V.

And sparkles blue are burning
On every blade around,
And will-o'-wisps are turning
In devious tangled round:

VI.

And copious springs are gushing
From out the marble stone,
And from each riv'let flushing
Gleams back the star light lone:

VII.

Ah, had I there my dwelling
From pain and anguish free,
With joy my heart o'er-swelling
Would free and happy be!

VIII.

Ah! land of unalloyed delight,
Oft visited in dreams,
Yet flies it with each sun-light,
Like foam on brawling streams.

General Intelligence.

[For the Northern Light.]

THE PROJECTED UNION OF THE ATLANTIC AND PACIFIC.

BY JOHN L. O'SULLIVAN.

AMONG all the entertaining and instructive contents of Mr. Stephens's recent narrative of his travels and explorations through the desolate wilds of Central America, the portions by which our interest was the most strongly excited were *not* those which he devotes to the ruined relics of the Past—of an age and a race of whose story no faintest echo even of tradition reaches our ears, out of the 'dark profound' of oblivion which has engulphed them all. We are not, indeed, wholly destitute of that spirit of antiquarian awe, which loves to muse amidst the silent desolation of such scenes—of sympathy with that solemn sublimity which broods like an atmosphere over such wondrous remains of the perished pride and power of an old civilization long utterly vanished from the face of the earth. But we confess that it is *forward*, into the still brightening brightness of the great Future, rather than *backward*, through the thickly gathered gloom, out of which struggles no ray to reveal its buried secrets, that we prefer to turn and fix our contemplation. Ours is an age of movement, of advance, of revolution, of reformation, and we acknowledge ourselves deeply imbued with its spirit. The inchoate conception of a great future work, designed to benefit and bless many a yet unborn generation of mankind, has, therefore, an interest to us, to which none of the mightiest architectural achievements of the kingly or priestly despotisms of ancient ages can lay a claim; and for our eye the shadowy outline of the one, as it yet exists only in the distant vision of hope and imagination, has a charm which it would seek in vain in the most picturesque combinations of mouldering temple or tower, pillar or pyramid, which the other can present.

Mr. Stephens gives a portion of one of the concluding chapters of his first volume, to the important and interesting subject indicated by the title prefixed to these remarks, which has long been one of those grand ideas haunting the minds of men, as prophetic presentiments of great events long in advance of their practical realization. We rejoice profoundly in the numerous signs of the times, which now appear to indicate that that day is not now very far distant; and we believe that we could not select a subject with which more usefully to occupy a portion of the space afforded by this journal, or more acceptably to most of its readers.

A single glance at the map of the world will suffice to satisfy even the most unreflecting observer, that the execution of this long contemplated project, of uniting the two great oceans by a ship-canal across the isthmus that connects the Americas, would be (in the words of the Edinburgh Review, January, 1809, page 282,) "the mightiest event in favor of the peaceful intercourse of nations which the physical circumstances of the globe present to the enterprise of man." It would effect a revolution in the commercial system of the world, surpassing that of the discovery of the passage by sea to the East Indies by the Cape of Good Hope. To the vast commerce of the United States and Europe with the western coast of South America, it would save the circumnavigation of the latter continent, the total distance of which is about twelve thousand miles, together with the difficulties and dangers of the navigation of Cape Horn. The immense Pacific territory of the United States, now all but inaccessible to the commerce of our Atlantic board, except by

overland conveyance, would be brought within easy access to the latter. The commerce of the world with China, Japan, and the Indian Archipelago, would be facilitated by a saving of above four thousand miles of distance; together with a still greater advantage in safety and ease, from the fact that this route will avoid the equatorial and the high latitudes of the present route, passing through the most favorable latitudes for winds and currents each way. Similar advantages would be afforded to the whale, skin, and fur fisheries of the different nations, and especially the United States, in the Pacific, as well as to the intercourse of Russia with her possessions on the extreme northwestern coast of North America. And even of the commerce of England with the East Indian possessions, although this route might afford it but a slight advantage in point of distance over the present one round the Cape of Good Hope, yet a large portion would undoubtedly seek this direction from the advantages of winds and latitudes which it would afford.

Incalculable as all these advantages would be, even in the present state of the commerce of the world, their benefit would be greatly multiplied by the effect which such increased facilities of communication and exchange would exert, to stimulate the immense masses of the human race thus acted upon, to new efforts of industry, in the development of the resources of the richest portions of the globe; vastly, thereby, increasing the amount of valuable production for the common benefit, and the activity of commercial interchange, above the present degree of either. And, finally, the moral influence upon all that section of the globe, of bringing it into such close and intimate communication with the civilization and institutions of the more favored nations of the North Atlantic, will constitute a motive of action not inferior, to the eye of philanthropy, to the aggregate of all the material advantages which have here been enumerated. If the realization of such a project be within the limits of physical practicability—if not absolutely forbidden by a higher than any human power—if not manifestly decreed impossible by the fiat of that creative will which has spread out the oceans and the continents, and has reared high toward the heavens the rocky barriers of the eternal hills—we are well assured that every reader of this paper will agree with us, that then it ought to be accomplished, and must be accomplished, even though it should prove an undertaking to task the combined energies and powers of all the commercial and civilized nations of the globe. And all will partake of the profound emotions with which, on investigation of the subject, we first reached the conviction (long before familiar to other minds,) that it was within the limits, not merely of physical possibility, but of easy execution, at an expense certainly trifling in comparison with the immense national and cosmopolitan benefits, which must immediately flow from its completion.

Our present limits do not permit us to go into any narrative of the inadequate and abortive attempts that have heretofore been made, to set in action some plan for the accomplishment of this grand and glorious project. There have been several; but none, either by the persons, or under the circumstances, suitable for success. The governments of the countries through which lie the two routes contemplated for the purpose, have always (that is to say, since their emancipation from the paralyzing incubus of the dominion of Spain) been ready and anxious to offer every inducement and facility to foreigners to undertake the work; and on several occasions individuals or companies have entered into contracts with those governments, and have attempted some initiatory steps having reference to that object. An unfortunate fatality has, however, hitherto attended them all. From some cause or other they have all fallen through, though nothing has occurred to weaken, but, on the contrary, every further development of knowledge has tended to confirm the confidence entertained by these conversant with the subject, in the perfect and even easy practicability of the work. A summary account of these different attempts—these preparatory gropings—may be found in a paper in the Democratic Review for October, 1839, reviewing an able pamphlet on the subject by Mr. William Radcliff, of New-York, and a voluminous report of a committee of the House of Representatives of the U. S., embracing a great mass of information directly or collaterally bearing on this subject. Of the two contemplated routes themselves we propose to give a brief and general account, to enable the reader to judge for himself of their practicability—with a view to promote the generation of such a public opinion in behalf of the enterprise, as may tend to stimulate some favorable action by the present Congress and Administration, towards its being undertaken under better auspices than have heretofore attended it.

The two routes between which the selection must lie for the location of this important work, are, 1st, the Northern route, through the States of Nicaragua and Costa Rica, in the Federal Republic of Central America,—and 2d, the Southern route, across the narrowest part of the isthmus of Darien, in the (now) Republic of New Grenada. The latter has greatly the advantage over the other in point of distance, and probably, also, in the topographical character of the country.

1. *The Northern or Nicaragua route* presents in some respects a remarkable natural adaptation to the purpose in view. In the interior of the country, about sixteen miles from the Pacific and sixty from the Atlantic, is a large inland sea, ninety-five miles in length by about thirty in breadth at the broadest part, the Lake Nicaragua, which would itself form a part of the communication, and which would afford an abundant and constant supply of water to canals of any dimension, which should issue from it eastward and westward respectively to the two oceans—from both of which the land *ascends* to the lake. A large stream, the St. Juan, issues from the southeastern extremity of the lake, being its outlet into the Atlantic. This river varies in depth from two to five or six fathoms, and contains no other obstructions than some rapids, easily to be cleared away. The distance from the lake to the ocean, along the winding course of the river, is about eighty miles, though in a straight line not more than sixty. The river could, at trifling expense, be made navigable for large steamboats; and along the line of its valley no impediment exists to the construction of a ship-canal of any magnitude. From the outlet of the lake at the commencement of the river, across to the point on its western side the most favorable for the location of a canal, the distance is about fifty miles, navigable with ease for the larger classes of merchant vessels, the average depth of water in the lake being about fifteen fathoms. The only space then remaining to be pierced for the passage of the navigation consists of the isthmus, as it is sometimes termed between the lake and Pacific—a distance of only about sixteen miles. With respect to this, it is generally known that the great chain of mountains which runs through the two continents, at this portion of its course, in Guatemala, almost entirely disappears. Some of the accounts represent the country between the lake and the Pacific as almost a dead level, broken by but a few isolated conical hills; which, for a portion of its extent, from the gentle smoothness of its ascent, it undoubtedly appears to be, though a ridge of moderate elevation, and presenting no insuperable obstacle to a canal, certainly does appear at the distance of about six or eight miles from the lake. In Thompson's Guatemala is quoted a table on levels, taken from the ocean to the lake, at the average distance of one hundred yards each, under the direction of the Spanish authorities. From these it appears that the sole difficulty lies within the eight miles next to the former; for about six miles of which the elevation of the earth exceeds the surface of the lake upward of 60 feet; for two miles of the six it averages about 135 feet; and for about one-third of a mile it reaches 150 feet. For the remainder of the distance to the lake the ground descends gradually, being eminently favorable for the construction of a canal. Mr. Stephens quotes, in his book, more correct elevations recently taken by a Mr. Bailey, an English half-pay officer, employed by the government of Central America, which certainly exhibit a much greater height of the ridge in question than those given in Thompson's Guatemala. They make the level of the lake 128 feet above that of the ocean, at low tide, and the highest point or summit level of the ridge 615, which would make the greatest depth of the cut required nearly 500 feet, unless other modes were adopted by which the difficulty might be overcome. Two other lines of route have been proposed from the lake to the Pacific, the one farther to the northward, and the other to the southward, which on examination may be found to afford greater facilities. It has also been suggested, that the necessity of these very deep cuts may be dispensed with by the aid of hydraulic science, by which reservoirs of the dimensions requisite to supply the higher levels in crossing the ridge could be filled from the ocean. For a canal for boats, a tunnel would doubtless be preferable;—in fact, if these elevations be correct, the idea of a canal for *ships* by this route must be abandoned; though with respect to a canal of the ordinary character, Mr. Stephens gives the following as the sum of his conclusions:

"I am authorized to state that the physical obstructions of the country present no impediment to the accomplishment of this work. A canal large enough for the passage of boats of the usual size could be made at a trifling expense. A tunnel of the length required is not considered a great work in the United States. According to the plan of the Chesapeake and Ohio canal, a tunnel is contemplated upward of four miles in length. The sole difficulty is the same would which exist in any route in any other region of country, viz. the great dimensions of the excavation required for a ship canal.

"The data here given are of course insufficient for great accuracy; but I present a rough estimate of the cost of this work, furnished me with the plan. It is predicated upon the usual contract prices in the United States, and I think I am safe in saying that the cheapness of labor in Nicaragua will equalize any advantages and facilities that exist here.

"The estimate is,

From the lake to the east end of the tunnel, from	$8,000,000 to 10,000,000
Descent to the Pacific,	2,000,000 to 3,000,000
From the lake to the Atlantic, by canal along the bank of the river,	10,000,000 to 12,000,000
	$20,000,000 to 25,000,000

which is but about the sum contemplated as the cost of our enlarged Erie canal."

At each end of the route here spoken of is to be found an excellent harbor—on the Atlantic that of the port of San Juan, and on the Pacific that of San Juan de Brito, on the gulf of Papagayo, or that of Realejo a little further northward, of which we find it stated, on good authority, that "a thousand line-of-battle ships can conveniently and safely ride at anchor in the said port of Realejo."

2. *The Southern or Panama route* has certainly, over that, which has just been described, the obvious and immense advantage of a greatly diminished distance to be overcome. The shortest distance across, from sea to sea, in a straight line, is only about 28 miles, according to Humboldt, though the course of a canal would be somewhat longer. By the use of a part of a river conveniently situated for the purpose, not more, however, than about 28 or 30 miles of canalling would be necessary. This route was not visited by Mr. Stephens, lying as it does beyond the limits of the Republic of the Centre, to which alone his mission carried him. The most suitable point here on the Atlantic side to be selected for the purpose in view, is unquestionably, from its great advantages as a harbor, the Bay of Limon, or "Navy Bay," a little to the eastward of the mouth of the river Chagres, which empties into the bay of the same name. On the Pacific side the choice will lie between two points, the Bay of Panama and the Bay of Chorrera. The distance in a straight line across from Panama to the mouth of the Chagres is about forty miles, the isthmus beginning here to widen. It is remarkable that there occurs here, according to Lloyd's* Report to the Royal Society in 1841, a subsidence of the chain of the northern Cordillera of the Andes—as if designed by nature as a hint and stimulus to men to select this point to complete, by art and labor, the work left undone by herself, of connecting the two adjacent oceans by a ship communication. The Chagres is a considerable river, navigable for vessels drawing five or six feet water for about forty-three miles from its mouth, to the small town of Cruces. At about twelve or fourteen miles from its mouth, it receives a large tributary called the Trinidad, and in fact it may be considered doubtful which of the two is entitled to the designa-

* "It is generally supposed in Europe that the great chain of mountains which in South America forms the Andes, and in North America the Mexican and Rocky Mountains, continues nearly unbroken through the isthmus. This, however, is not the case: the northern Cordillera breaks into detached mountains on the eastern side of the province of Veragua. These are of considerable height, extremely abrupt and rugged, and frequently exhibit an almost perpendicular face of bare rock. To these succeed numerous conical mountains rising out of savannahs and plains, and seldom exceeding from three hundred to five hundred feet in height. Finally, between Chagres on the Atlantic side, and Chorrera on the Pacific side, the conical mountains are not so numerous, having plains of great extent interspersed with occasional isolated ranges of hills of inconsiderable height and extent. From this description it will be seen that the spot where the continent of America is reduced to nearly its narrowest limits, is also distinguished by a break for a few miles of the great chain of mountains which otherwise extends, with but few exceptions, to its extreme northern and southern limits."—*Phil. Trans. Royal Society*, 1830, *part* 1, *page* 65.

Captain Lloyd was an English officer in the employment of Bolivar, as head of the Colombian government. An exploration of the route of a canal was made by him, in 1828 and '29, in conjunction with Capt. Falmarck, a Swede. After his return to England, he made two reports, (with the permission of Bolivar,) the one to the Royal Society, and the other to the Royal Geographical Society, of London. See "Philosophical Transactions of the Royal Society of London, for 1830, part 1:" and the "Journal of the Royal Geographical Society of London for 1830-1." Bolivar would have executed this work himself had he lived and continued at the head of affairs in Colombia. In the month of September, 1829, at Guayaquil, after he had brought to a victorious termination the war between Colombia and Peru, in a conversation with an American gentleman on the subject of the communication across the isthmus, he declared his intention, on his return to Bogota, and on the settlement of the difficulties of the state, *of sending his army to the isthmus to employ them in this work*—a better use, alas, than any South American army has ever yet been put to. But the hand of disease and death was already upon him. In the following year his resignation of the Presidency (in consequence of the charge against him of monarchical aspirations, made the pretext by the Venezuelians for their contemplated division of the republic,) was shortly followed by his death, before he could embark for England, according to his intention, for the restoration of his shattered constitution.

tion of the main stream.* To its junction with the Trinidad it is proposed to use the river as part of the projected ship communication, it being fully adequate for the purpose. From that point two diverging routes are proposed; the one to the Rio Grande, which empties, with a broad mouth or estuary, into the Bay of Panama; and the other to the Bay of Chorrera—both of about the same length, namely, 28 or 30 miles. On the Atlantic side a short cut is proposed, of two or three miles, from the river to Navy Bay, in preference to entering the river at its own mouth, in the Bay of Chagres. The greater part of either of these two lines would be through a tolerably level country, with the exception of a ridge extending within a few miles of the Pacific side, through which a deep cut would be necessary, but which, it is believed, will be found to present no very formidable obstacle. Along the greater part of the route the waters of both the Chagres and the Trinidad, the one on the right and the other on the left, could be made tributary to the canal as feeders, which there is considerable probability to suppose would be quite sufficient for the purpose.

There are also numerous smaller streams, especially as we approach the Pacific, which would be available as feeders and in the formation of reservoirs. Of this route, Mr. Radcliff, whose opinion is entitled to great weight, thus speaks, in a letter to the chairman of the committee of the House of Representatives, appended to the report above alluded to as having been made by that committee:

"In reference to the route by the river *Chagres*, which I have no doubt is *practicable* and *preferable to any other*, I would observe that on a review of all the authorities respecting it, and further examination of the great question as to a supply of water at the summit-level, I feel more confident than ever of a sufficiency of water being obtainable there for a *ship canal*. There are several streams rising in the high land of the isthmus, on each side of the contemplated route, besides the rivers Chagres and Trinidad, (either, perhaps, sufficient,) which may all be conducted into one spacious basin or reservoir, located high enough to feed a canal on the summit-level both ways, though perhaps at heavy expense, which is of little consequence in regard to such a work as this. It is also possible to make an excavation, through the dividing ridge of land between the two oceans, deep enough to admit the water from the bed of one or both those rivers to feed the canal on its summit-level, and even deep enough to let the waters of the Pacific supply that level every flood tide; as it rises daily from fourteen to sixteen feet, and is then so much higher (less one and a half foot) than the Atlantic. Such an excavation would probably not exceed the one in the valley of Mexico, described by Humboldt. But there is still another method of supplying that level if others fail—that of raising the water out of a reservoir filled by streams into a higher one on the summit-level, by means of forcing pumps, like the Philadelphia water-works supplying the city, and those on the Pennsylvania Union canal for supplying the summit-level thereof. The former elevates water out of the Schuylkill, by six forcing pumps united, to the height of one hundred and ten feet, at the rate of three thousand gallons per minute, into a reservoir constructed at that height, covering six acres of ground, and holding twenty-odd millions of gallons."

To the means here alluded to of filling large reservoirs for the supply of water to the canal, should be added that afforded by the season of incessant and heavy rain, about five months of the year, from May to October. And sufficient experience has been had in the use of reservoirs of this kind to admit of exact calculation of the amount of loss by evaporation to be allowed for the dry season.

The isthmus is described in Lloyd's report, already alluded to, as abounding in valuable timbers and all the building materials requisite for a work of this kind; and an ample supply of laborers, at low wages and cheaply supported, could be fully relied upon, as well as the zealous co-operation of the liberal and now well-consolidated government of New Granada.

The only two great ship canals in existence, the celebrated Caledonia and Amsterdam canals, though inferior in scale of magnitude to the project now under consideration, yet may be regarded as far greater undertakings in proportion to the purposes to be subserved and the interests to be benefited by them, than this work would be, if realized on the most magnificent scale, in comparison with the incalculable advantage to the commerce of the whole world directly involved in it. The length of the present article necessarily excludes any particular description of these canals, a sufficient account of which can be found in any of the encyclopœdias.

It is evident that this great undertaking, though it may be accomplished by the enterprise of associated private capital, must require, nevertheless, the aid and the protection of national power. It ought to be the subject of a common treaty among the principal commercial nations of the world, with the local government of the territory through which the canal shall pass. Its neutrality, its security and tranquillity must be amply guarantied. It cannot be doubtful that it could easily be made, before many lustres of years after its completion, to repay its own cost, in the tolls which the commerce of which it will be the great artery will well be able to bear, in return for its relief from all the expense and dangers of the circumnavigation of the southern continent. After the attainment of this result, together with a liberal surplus of profit for the investment of capital, its freedom to all the commercial flags of the globe ought to be secured, beyond the reach of the cupidity of private ownership, or of the exactions or caprice of local governments or factions. All these objects can only be effected by means of a common treaty of the nature here referred to. To accomplish this object, we are anxious to see our own country stand nobly forward in this common cause of the civilized world, by taking that initiative which is alone now wanting to lead the way to speedy and splendid success. We might refer to various motives of high national policy, dictating to the United States the prompt performance of this great duty; among which not the least prominent would be that of preventing any of the other powerful commercial and naval nations, and especially England, from acquiring any right of priority in the possession or control of an important cosmopolitan work like this, which must soon become the pivot of the revolving commerce of the world. Another reason alone should be decisive on this point. It is clearly the common interest of this country, with the rest of the world, that the projected junction of the two oceans should be by a *ship canal*, in preference to any inferior mode of communication. This is an enterprise too vast and bold now to be undertaken by private capital, unencouraged by national auspices and assistance. Yet of the comparative facility and cheapness with which either a rail-road or steamboat communication, or a combination of the two, could be effected, even by private enterprise alone, there can be but very little doubt. And enormously profitable as such a work would manifestly prove to its undertakers, who can suppose that it can remain much longer unexecuted? It is clearly the interest of either of the local governments to *prefer* such a mode of communication to that by a ship canal; for while the one would merely afford a rapid and undisturbed transit to the commerce of the world, the other would arrest a large portion of it at the isthmus, establishing great *depôts* on both its shores, which must necessarily soon present a scene of commercial activity and prosperity unparalleled in the history of the world. We may therefore daily expect to hear of such a work being undertaken in earnest by private capital. Various recent movements of the kind have been made, and are still in motion. And in this case the grander project of a ship communication would be superseded and indefinitely postponed, and special privileges secured to some minor private interests, for doubtless at least half a century, antagonistic to the universal interest in which we ourselves as a nation partake, in common with the world at large.

We hope, therefore, soon to see some earnest and energetic action towards this great object, on the part of our government,—not, indeed, in any such mode as the contribution of money, or even the participation in the construction of the work, as a government, whether in connexion with other governments or with individuals. To any such measure we should be decidedly opposed, on constitutional as well as on other grounds. But by the simple means of sending out a small party of engineers to report a thorough survey of the two contemplated routes, by detaching a few of the officers of the topographical corps on this service, it could lay the foundation first requisite before any other practical step can be taken in the enterprise;—after which the negotiation of a treaty of guaranty and protection between the governments of England, Russia, France, Holland, Spain, and ourselves, would be a task as easy as it would be honorable. And under such a treaty, together with the aid of the authentic surveys and explorations of which we desire that our government should give the benefits to the world, there will not be the slightest difficulty in associating any amount of private capital that may be required for the accomplishment of the undertaking. The course here proposed would not fail to be enthusiastically sustained by all the enlightened public opinion of the country, without reference to party divisions or prejudices; and would reflect unfading honor upon the administration under whose auspices so grand and glorious an undertaking should be commenced.

* Capt. Lloyd, in his report to the Royal Society, already referred to, says—"Should a time arrive when a project of a water communication across the isthmus may be entertained, the river Trinidad will probably appear the most favorable route. The river is, for some distance, both broad and deep. Its banks are also well suited for wharves, especially in the neighborhood of the spot from whence the lines marked for rail-road communication commence."

COMPARATIVE ESTIMATE,

Of the sum of the animate and inanimate forces employed in Agriculture, and in Manufacturing and Commercial Industry, in France and England, ascertained by statistical researches, in 1829.

BY LE BARON CHARLES DUPIN.

[Translated from the French, for the N. Light, by John A. Dix.]

The 31,800,000 inhabitants, which now constitute the population of France, are equal to the power of 12,609,057 individuals of the male sex at the age of full strength. It is an opinion generally received in France, that two-thirds of the population are employed in agriculture, and that only one-third is devoted to the labors of manufacturing and the pursuits of commerce. Thence it results that France possesses

	Laboring Men.
An agricultural force equal to that of..	8,406,038
And a manufacturing and commercial force equal to that of.....	4,203,019
	12,609,057

If the industry of man had not found the means of invoking to his aid an external force, his resources would be limited to the amount of power which we have just stated. But man employs in the labors of agriculture other forces than that of his own hands. He employs, principally, that of the horse, the ass, the mule, the ox, and the cow, and with the assistance of these, the animal force of France employed in agriculture, has been raised to the following amount:

			Laboring Men.
Human race,".....	21,056,667		8,406,038
Horses, ...	1,600,000	equal	11,200,000
Oxen and cows,....	6,973,000	to	17,432,000
Asses, ...	240,000		240,000
			37,278,038

In making the same calculations of the agricultural force of Great Britain, and in assuming the number of inhabitants of England and Scotland to be 15 millions, one-third of which only is employed in agriculture, and the other two-thirds in commerce and manufactures, we shall have,

	Laboring Men.
Agricultural force, ...	2,132,446
Artisans of all professions,.....	4,297,893
	6,430,339

If we follow for Great Britain the same course which we have followed for France, and if we make a comparative calculation of the human and other animal forces employed in agriculture we shall find,

			Laboring Men.
Human race,.....	5,000,000	equal	2,142,446
Horses of full size,..	1,250,000	to	8,750,000
Oxen, Cows, &c.,....	5,500,000		13,750,000
			24,642,446
Ireland, proximate estimate, ...			7,455,701
			32,098,147

If we fix the proportion between this total force of 24,642,446, and the human force applicable to agriculture, we shall find it is as twelve to one: whence it evidently results that the agriculturists of England and Scotland have found the means of creating a force equivalent to twelve times the amount of their bodily strength, by the employment of domestic animals, while the additional force obtained in France by like means, does not equal five times the amount of the sum of the strength of the agriculturists. It has been calculated that in France there are 46,000,000 of hectares of ground devoted to production; so that there is an animal power equal to 810 laborers for the cultivation of each 1,000 hectares. The whole number of hectares of productive land in Great Britain is 21,643,000; so that there is an animal force equal to that of 1,130 laborers for every 1,000 hectares. The produce of land in the two countries is in proportion to the force employed in its cultivation respectively. It is the same in relation to manufactures.

The human force employed in France, in commercial and manufacturing industry, is equal, according to calculations already established, to 4,203,019 la-

boring men; to this power we must add that which is obtained by the employment of horses, the number of which amounts to 300,000, in transportation, under the saddle, or in draught, &c. By this means the animal force of France becomes equal to the power of 6,303,019 men.

The human force of Great Britain, employed in commerce and manufactures, equals 4,294,893 men in condition for labor; to this power it is necessary to add the force of 250,000 animals employed in different operations of industry, which will raise the animal force of England and Scotland, to 6,014,893. To this must also be added the proximate value of 1,260,604 men in Ireland, in condition for labor; so that the animal power employed in the commerce and manufactures of the United Kingdom, should be estimated at 7,275,497 men, in condition for labor.

To these various animal powers we must add also, in a view of the two countries, the inanimate forces, or the force produced by water, wind, and steam, and we shall have an estimate of the whole commercial and manufacturing productive power of France and England.

French statistical writers have stated the number of mills of all kinds, in France, at 76,000, of which 10,000 are moved by steam; the whole power of hydraulic machines applied to forges, furnaces, and every description of mechanics, is equal to the third of that of ten thousand wind-mills; the wind employed in navigation is equal to the power of 3,000,000 of men; and, finally, the steam-engines, which were in operation in France exceeded the power of 60,000 *dynames*, equal to the force of 48,000 men turning a windlass.

The same writers have calculated also, that besides machines moved by wind and water, &c. Great Britain has, in steam-engines alone, a motive force of at least 800,000 *dynames*, the effect of which is equal to the power of 6,400,000 men employed at the windlass. The commercial and manufacturing power of France is, consequently, in the following proportion to that of Great Britain.

	France.	*Great Britain.*
Animal force,	6,303,019	7,275,497
Inanimate forces, mills and hydraulic machines,	1,500,000	1,200,000
Wind and navigation,	3,000,000	12,000,000
Wind-mills,	253,333	240,000
Steam-engines,	480,000	6,400,000
Total,	11,536,352	27,115,497
Ireland,		1,002,667
Total Great Britain,		28,118,164

Thus the whole inanimate force employed in France in every imaginable art, hardly exceeds one-quarter of the same power applied in England to the same purposes; and the whole animal and inanimate power of great Britain, employed in manufactures and commerce is almost treble that of France. The agricultural, manufacturing, and commercial power of the two countries preserves a corresponding proportion with the whole of the agricultural and manufacturing productions and with their value in commerce.

NOTE.—*A hectare* contains about 10,000 square mètres, or 180 ares. An English acre equals, nearly, 40 ares: a hectare is, therefore, about two acres and a half.

A *dyname* equals 1,000 kilogrammes (about 2,206 pounds,) raised to the height of 1,000 mètres (about 1,093 yards); eight men moving a windlass raise in one day 1,000 kilogrammes to the height of 1,000 mètres, or, in other words, can perform a *dyname* of work.

NEW METHOD OF PROPELLING CARRIAGES ON RAILWAYS.

ADELAIDE GALLERY, LONDON.—The last scientific novelty at this institution is a large scaled model illustrative of a mode of propelling carriages on railways, by which the use of locomotive engines and ropes is dispensed with. It is the invention of Mr. Elijah Galloway, and may be thus described: At short intervals along the whole space between the rails are placed deeply grooved pulleys or wheels of iron, and on them rests the *propelling rail*, a continuous beam of wood, extending from station to station, four inches thick by ten in depth, and plated on its upper surface with sheet iron. To this, longitudinal motion is to be given by a stationary engine having a large drum, on which is coiled a chain attached to the under side of the propelling rail. In every carriage, one of the axletrees has an additional wheel so fixed as to revolve with the ordinary wheels, while, when the carriage is properly placed, it bears upon the propelling rail before mentioned, and so proportioned as to be less in diameter than the running wheels in a ratio determined by the speed proposed. Now, let this apparatus,—the propelling rail with the smaller wheel resting on its upper surface and keyed tightly to the axletree of one pair of the longer ones on which the carriage runs,—be considered as a lever of that kind in which the power is placed between the fulcrum and the resistance, the power in this case being at the point of contact of the larger wheels with the external rails, and the resistance at the carriage axletree—it will be seen that if there be no slip, on traction being made with the propelling rail for any given number of inches or yards, the carriage will advance over a *greater* space; the excess of motion in the resisting body over that in the power being, of course, in proportion to the difference of leverage, or in other words, to the diametrical difference between the larger and smaller wheels. Mr. Galloway proposes about mile lengths for the application of his plan; that is to say, that whatever the ultimate length of line, every mile is to have its own propelling rail and stationary engine, and the carriages are to be passed from one to another, which can be done with little or no interruption to the speed. In the model now exhibited, the wheels are so proportioned that the excess of motion in the resistance over that of the power is as eight to one; consequently, in order that the carriages may advance a mile, it is only necessary that the propelling rail should move one-eighth of that distance, or 220 yards; the speed, meanwhile, being regulated, as in every other case, by the rate of the engine. Among the advantages contemplated in this plan, are enumerated, first, that in dispensing with locomotive engines, it not only does away with the most serious item of expense in *working* railways, but that since the rails are thereby relieved of vast weights, they may be made considerably lighter per yard, thus diminishing the expense of *construction*; secondly, that there is no mechanical disadvantage in this plan equal to the weight and friction of long ropes. This is an important consideration; since, while on the planning of the Manchester and Liverpool railway, it was calculated that with stationary engines and ropes, twelve horse power per mile would be sufficient for all purposes, *two hundred* horse power has in practice, been found necessary on the Blackwall line, or something more than *fifty* horse power per mile. As the result of very careful experiment, Mr. Galloway declares twelve horse power sufficient for each of his stations. In this, not to speak of the obvious loss of power by leverage, and allowing for the fact that the propelling rail moves at but one-eighth the speed of the carriages, we think it probable that he has underrated the *vis inertiæ* of a piece of timber of the stated scantling and a mile in length. For this reason, we the more regret that, at the private exhibition, the incomplete state of the model prevented Mr. Galloway from establishing his views by actual experiments with weights.

The idea is not entirely new, since it is somewhat analagous to that of the "differential pully," but the application is extremely ingenious and well worthy of attention. Not the least curious points about it are, the demonstration of the seeming paradox that a body may be made to gain, in a predetermined progression, on the power which draws it; and the strange contradiction of the casual observer's first impression, that by such an application of surface-friction the carriages *ought* to move in a *direction contrary* to that of the propelling rail.—*London Atlas, May* 29, 1841.

STATISTICS OF THE UNITED STATES.

[*From the last Annual Statement of the Commerce and Navigation of the U. S. by the Secretary of the Treasury.*]

A comparative view of the registered, enrolled, and licensed tonnage of the United States, from 1815 to 1839, inclusive.

YEARS.	Registered tonnage.	Enrolled & lic'd ton'ge.	Total tonnage.
	Tons and 95th		
1815	854,294 74	513,833 04	1,368,127 78
1816	800,759 63	571,458 86	1,372,218 53
1817	809,724 70	590,186 66	1,399,184 41
1818	606,088 64	609,095 51	1,225,766 20
1819	612,930 44	647,821 17	1,260,751 61
1820	619,047 53	679,062 30	1,280,166 24
1821	619,896 40	661,118 66	1,298,958 70
1822	628,150 41	636,548 71	1,324,699 17
1823	639,920 76	696,644 87	1,336,565 68
1824	669,972 60	719,190 37	1,389,163 02
1825	700,787 08	722,323 69	1,423,110 77
1826	739,978 15	796,211 68	1,534,690 83
1827	747,170 44	873,437 34	1,620,391 78
1828	812,619 37	928,772 50	1,741,977 87
1829	650,142 88	610,654 88	1,260,776 71
1830	576,475 34	615,310 10	1,191,450 43
1831	620,451 92	647,394 32	1,267,846 29
1832	686,980 77	752,460 39	1,439,450 21
1833	780,026 72	856,123 22	1,601,149 94
1834	857,438 43	901,468 67	1,758,907 14
1835	888,821 60	939,118 49	1,824,940 14
1836	897,774 51	964,328 14	1,892,102 65
1837	810,447 29	1,086,238 40	1,896,695 69
1838	922,591 89	1,173,047 89	1,995,639 80
1839	834,244 54	1,262,234 27	2,096,478 81

SUMMARY STATEMENT

Of the value of the exports, of the growth, produce, and manufactures of the United States, during the year commencing on the 1st day of October, 1838, and ending on the 30th day of September, 1839.

THE SEA.	
Fisheries—	
Dried fish, or cod fisheries,	$709,218
Pickled fish, or river fisheries, (herring, shad, salmon, mackerel,)	141,320
Whale and other fish oil,	515,484
Spermaceti oil,	89,015
Whalebone,	288,790
Spermaceti candles,	178,142
	$1,917,969
THE FOREST.	
Skins and Furs,	732,067
Ginseng,	118,904
Products of wood—	
Staves, shingles, boards, hewn timber,	2,270,603
Other lumber,	327,687
Masts and spars,	37,122
Oak bark and other dye,	309,696
All manufactures of wood,	659,291
Naval stores, tar, pitch, rosin and turpentine,	688,800
Ashes, pot and pearl,	620,369
	$5,764,869
AGRICULTURE.	
Products of animals—	
Beef, tallow, hides, horned cattle,	371,646
Butter and cheese,	127,580
Pork, (pickled,) bacon, lard, live hogs,	1,777,230
Horses and mules,	291,625
Sheep,	15,960
Vegetable food—	
Wheat,	144,191
Flour,	6,925,170
Indian corn,	141,095
Indian meal,	658,421
Rye meal,	145,448
Rye, oats, and other small grain and pulse,	72,050
Biscuit, or ship-bread,	247,871
Potatoes,	57,536
Apples,	50,875
Rice,	2,460,198
	$13,588,866
Tobacco,	9,832,943
Cotton,	61,238,982
All other agricultural products—	
Flax-seed,	161,896
Hops,	72,425
Brown Sugar,	28,722
	$263,043
MANUFACTURES.	
Soap and tallow candles,	453,471
Leather, boots and shoes,	173,839
Household furniture,	361,840
Coaches and other carriages,	52,960
Hats,	123,165
Saddlery,	42,743
Wax,	68,961
Spirits from grain, beer, ale and porter,	142,085
Snuff and tobacco,	616,212
Lead,	6,063
Linseed oil and spirits of turpentine,	78,757
Cordage,	25,899
Iron—pig, bar and nails,	134,583
Castings,	61,100
All manufactures of,	748,862
Spirits from molasses,	183,446
Sugar, refined,	521,117
Chocolate,	4,039
Gunpowder,	197,162
Copper and brass,	81,334
Medicinal drugs,	97,418
	$4,175,911
Cotton, piece-goods—	
Printed and colored,	$412,661
White,	2,525,301
Nankeens,	1,492
Twist, yarn, and thread,	17,465
All manufactures of,	18,170
Flax and hemp—	
Cloth and thread,	2,010
Bags, and all manufactures of,	2,047
Wearing apparel,	167,957
Combs and buttons,	17,965
Brushes,	4,186
Billiard-tables and apparatus,	2,564
Umbrellas and parasols,	11,618
Leather and morocco skins, not sold per pound,	12,952
Printing-presses and type,	33,231
Fire-engines and apparatus,	2,036
Musical instruments,	7,413
Books and maps,	32,864
Paper, and other stationery,	80,149
Paints and varnish,	41,450
Vinegar,	3,745
Earthen and stone ware,	11,645
Manufactures of glass,	43,448
Tin,	19,981
Pewter and lead,	12,637
Marble and stone,	7,661
Gold and silver, and gold leaf,	5,264
Gold and silver coin,	1,908,388
Artificial flowers and jewelry,	3,402
Molasses,	3,438
Trunks,	1,965
Brick and lime,	16,298
Domestic salt,	64,272
	$5,515,520
Articles not enumerated—	
Manufactured,	$42,909
Other articles,	694,089
	$1,236,998
Total,	$103,533,891

IRELAND.

PROGRESS OF DISAFFECTION.—In the wars which Great Britain has waged in years past for the extension of her commerce and the maintenance of her colonial possesssons, she has had the general concurrence and support of her subjects at home. Whether she can enjoy this advantage in a contest with us, should such an unhappy event occur, (an event which we most sincerely deprecate, and which we certainly do not apprehend,) is somewhat problematical. Mr. O'Connell, whose opinions have great weight with his countrymen, has declared for a nentrality for Ireland in such a contest, meaning, of course, a refusal to contribute, so far as voluntary co-operation on the part of individuals is concerned, to the success of the British arms. On the 29th of March, a repeal meeting was held at the Commercial Exchange, in Dublin, and Mr. O'Connell made in presence of a numerous assemblage a speech which we find in the New-York Truth Teller, and from which we cut the following extract:

"During the last six months England has been in imminent peril of war, and all the press deprecated it. Why, because England was weak at present, from internal discontents, it was not wise for her to go to war until she had first conciliated Ireland. Blood would be shed in China—it would also flow in India; and the accounts from Syria showed that peace had not been established there. If the Americans put M'Leod to death it would be a base murder, and war would then be inevitable; and on the boundary question, England should submit unless she conciliated this country. She was not safe if she had not, heart and hand, Ireland with her. But it was said they would call out the militia—they might do so; but would it be prudent for England to call out the Irish militia, and have the Irish nation dissatisfied to call out the sons and brothers of the disfranchised freeholders? *England might make war, but the Irish would keep their hands in their pockets.* The Hon. member then commented on an article in the Morning Advertiser, censuring the sentiment that the Irish would not join in any war that England was engaged in. The article stated that England would not be bullied; but that was a fib, for every concession had been obtained by bullying. The Pilot was taunted with wishing for the *humiliation of England*, and he (Mr. O'Connell) *wished for it also*, if it gave national freedom to Ireland."

This is, certainly, very bold and unequivocal language; and it would seem by the following article in the Montreal Times, that this is not the only occasion, on which he has expressed the same sentiments, and that the Dublin Pilot speaks in still stronger terms.

"*War between England and America.*—At a great repeal meeting at the Curragh of Kildare, Mr. O'Connell freely expressed his opinion with regard to the part which Ireland would act, should England become involved in a war. The following paragraph from the Dublin Pilot, Mr O'Connell's organ, comes directly to the same conclusion—an avowal of neutrality for Ireland:

"'*War—England versus Ireland.*—The time approaches when England must be humiliated or just, and Ireland may be free. * * * England may declare war, but who will war for England! Ireland? What! pay taxes, and shed our blood! And for what? * * * Why should Ireland war against France? There is no Irish feeling to be gratified, no Irish interest to be promoted by such a war. What has Ireland done to France, or France to Ireland, that we should shed each other's blood? * * * France invades Ireland—well, where in her complicated embarrassments will England find troops to defend Ireland, and preserve her province? Will Ireland defend herself, or leave the battle to the belligerents, and make no choice between masters? It is plain that England does not calculate on Irish cooperation. * * * A war against America is a war against friends. Were England never our tyrant, nor Ireland never her slave, we would war with reluctance; but as it is—no, we cannot war with America; our hearts forbid it—our hands would be powerless. We cannot swell the ranks of such a battle—and for what? For love of England!'"

THE DIFFERENCE BETWEEN EATING AND DRINKING.

The London Atlas of the 7th of Nov., says:—"The sum annually expended on bread by the people of the three kingdoms, (England, Scotland, and Ireland) amounts to about £25,000,000, [about 120 millions of dollars,] while that expended in strong drink, amounts to upwards of £50,000,000, [about 240 millions of dollars.] The money annually spent in gin only, would supply the population of the kingdom with bread for half year."

CONGRESS.

Since our last number was issued, the bill from the House of Representatives, authorizing the loan of twelve millions of dollars has passed the Senate and become a law.

The House has passed the Navy appropriation bill (including $789,000, for a home squadron) by a nearly unanimous vote. A bill making appropriations for fortifications has also passed the House by a vote of 148 to 66. The House has, since the passage of the latter bill, been engaged in the discussion of the tariff bill, which lays a duty of 20 per cent on certain articles admitted free of duty, and on other articles which pay less than 20 per cent. The effect of this bill, so far as it concerns free articles, may be seen by applying its provisions to the schedule in No. 3 of this paper appended to the report of the Secretary of the Treasury.

In the Senate a bill providing for a uniform system of bankruptcy has been passed by a vote of 26 to 23. A proposition to include corporations in it was negatived by a vote of 34 to 16.

A bill has also passed the Senate, to charter a Bank of the United States, by a vote of 26 to 23. The bill gives the Bank power to establish branches in any State, unless the legislature shall, at its next session, dissent.—If such dissent is not expressed by resolution or other legislative proceeding, the assent of the State is presumed.

GREAT BRITAIN.

It is as was anticipated. The British Ministry have been defeated, and the corn-law monopoly will undoubtedly be sustained. The Tory, or conservative party, as they are indiscriminately called, have gained 34 members, making a difference of 68 on a division in the House of Commons. Lord Palmerston, one of the ministers, is defeated in Liverpool, but is returned by one of the minor election districts, (Tiverton.) Lord John Russell, another of the ministers, is elected for London by 9 majority. Mr. Joseph Hume is defeated in Leeds, and Mr. O'Connell in Dublin. The latter has, however, been returned for Meath. We annex his letter to his countrymen, in which he speaks with characteristic boldness, of the election.

"Fellow-citizens and Irishmen:—The enemies of Ireland—the base Orange faction—have triumphed; they have carried their ends by the basest bribery and corruption; but, blessed be God, their triumph has given a greater impulse to the darling object of my life—repeal. Be not daunted, my friends; a petition will unseat the exterminators of yourselves and your holy and sacred religion. *Ireland cannot bear my absence from the House at this crisis, even for a moment;* I have therefore accepted the representation of the honest men of Meath; but Hutton, the honored friend of his country, will prosecute a successful petition. Your faithful friend and servant,

"*Merrion-square, July* 10. DANIEL O'CONNELL."

The ministerial party charge their opponents with a profuse and corrupt expenditure of money. It is well known that immense sums are expended to carry elections in England; and when it is remembered that the great land-holders and the nobility, who possess a large portion of the wealth of the kingdom, are hostile to the reform in the corn-laws proposed by the ministry, there is no reason to doubt the truth of these allegations.

Sir Robert Peel, the leader of the opposition in Parliament during the Whig administration, which is now about to be terminated, is by universal admission, to be the head of the new ministry. During the recent canvass, he expressed himself in the strongest terms in favor of maintaining peace between Great Britain and the United States, so that the coming change will, at least, produce no unfavorable influence on the existing amicable relations of the two countries.

The strength of parties in the House of Commons at the last accounts was as follows:

Conservative, 332. Liberal, 284.

There are about 70 districts to be heard from. In two of the districts in which elections have taken place, there are double returns.

FRANCE.

Some popular disturbances took place in Toulouse on the 6th and 7th ult., but they were suppressed without loss of life.

The expenditures of the kingdom for 1842 are estimated at 1,276,338,076 francs, (about $238,300,000,) and the revenue at 1,160,683,143 francs, (about $217,600,000,) showing a deficiency of more than 20 millions of dollars.

THE EAST.

THE GREAT EASTERN QUESTION.—The London Morning Chronicle of the 14th of July, says:—Yesterday afternoon was signed, at the Foreign Office, by the Plenipotentiaries of Austria, France, Great Britain, Prussia, Russia, and Turkey, the convention about the Straits of the Dardanelles and Bosphorus, which has so long been agreed on and initiated, but the signature of which had been delayed till it should be known that Mehemet Ali had accepted the firman of the Sultan.

The signature of this convention puts an end to that schism between France and the four powers which had arisen out of the different views which France and those four powers had taken, as to the practical measures best adapted to carry into effect the general principles which France and the four powers equally maintained in theory; and thus an additional security has been obtained for the continuance of that state of things which every European power is so deeply interested in preserving.

The ratifications of the convention will be exchanged as soon as they can be received from the respective courts.

The object of the convention is to render general to all the five powers the engagement which subsists between Great Britain and Turkey by the eleventh article of the treaty of 1809, and by which the Sultan declares his intention of closing the two Straits against ships of war of all nations, as long as Turkey is at peace.

AGENTS.

New-York City—Israel Post, 88 Bowery.
Utica—Isaiah Tiffany, Genesee-street.
Buffalo—W. B. & C. E. Peck.
Oswego—E. W. Clarke.
Geneva—Samuel F. Stow.
Boston—W. H. S. Jordan, 121 Washington street.
Bangor—J. C. Plummer.

TRAVELLING AGENTS.

John H. Allen, of Auburn.
William Stoughton, of Brockport.
D. Judson, of Clinton.

ERRATUM.

In No. 4, page 58, first column, under the head of "MINES AND MINERALS," *for* 41,000,000 tons of coal consumed in the production of pig and bar iron, *read* 4,000,000.

Editorial Notices.

TO CORRESPONDENTS.

THE conductors of the Northern Light deem it proper to remind their readers that their paper was established upon the principle of allowing a free discussion of such important public questions as were unconnected with party politics. To carry out the principle, we announced our intention of publishing all communications on those questions with the names of the authors, thus making them answerable for the opinions expressed and the positions assumed, and leaving to the conductors of the paper no further responsibility than that of seeing that no party or personal discussions were introduced into it. We consider this abandonment of the anonymous system as the most important feature of the publication; we believe the public so regard it; and it will be steadily adhered to.

We advert to the subject now, because we have received several communications without the signatures of the writers. Although we are not pledged to the public to give names, excepting under our politico-economical head, we have adopted the practice of doing so, in respect to all important articles, under whatever head they may come. We must, therefore, request correspondents to write, in all cases, under their real names.

Several communications, with the names of the writers, have been received, but are unavoidably postponed to a future number.

TO SUBSCRIBERS.

☞ The August number of this paper is issued, with a view to some necessary office arrangements, a few days in anticipation of the regular day of publication. The September number will be issued, on the 15th of the month.

BULLIONS' LATIN GRAMMAR.—We are happy to learn that this work is now in press in this city, and will be published within a very few days. After the valuable grammars of the English and Greek languages, furnished to us by this able linguist, we augur favorably of the present work. There is scarcely a difficult point in our own tongue, which is not explained or settled in the English one; and we know of no work that has more carefully *posted* up the current knowledge of the present day. The student will find most satisfactory assistance in this work, as to the proper use of prepositions—an accomplishment the most difficult, according to the late Dr. Dwight, to be attained by a writer of English.

To instructors, the series will prove peculiarly acceptable, as they are all modeled on one system, and will thus greatly facilitate their labor in studying the general doctrines of the science of Grammar.

LADIES' CABINET MAGAZINE.—This is the title of a Monthly pedodical, recently established in this city, edited by E. J. Squier. It is a union of the Philadelphia Visiter, Pearl and Poughkeepsie Casket, and is devoted to science and General Literature. The numbers we have seen contain a variety of interesting matter, and from the character of the contributors we have no doubt it will be a valuable accession to the periodical literature of the day. It is in magazine form, and is published at the low price of $1.25 per annum.

ARCTURUS—A journal of books and opinion.—It was our intention, ere now, to have paid a brief notice (all our limits will allow us to give) to this spirited and well sustained publication. It is published monthly, in the city of New York, and furnishes an interesting variety of articles, many of which are written with great ability and power. Its editors are Messrs Mathews and Duyckinck. In its mechanical execution, the work exhibits great taste and beauty.

DISTRICT SCHOOL JOURNAL.—In our 3d No. we alluded to the proposed establishment of this journal in Albany. The contemplated arrangement has been made, and two numbers have been issued. The paper is made by law the organ for the publication of the statutes relating to common schools and the decisions of the Superintendent; and it is, therefore, of the highest authenticity as a vehicle of legal information in respect to the common school department. It is edited by Mr. Francis Dwight, a gentleman of highly respectable literary attainments, who has for several years given a zealous and untiring attention to matters connected with the organization and discipline of the schools. In such hands it cannot fail to be of great value to the public. It is published monthly at the low price of 50 cents per annum; and its execution (in the best style of the Van Benthuysen press) will bear a favorable comparison with any other periodical in the country. The July and August numbers, which are now before us, are embellished with engravings, illustrating various subjects of useful knowledge, and adding greatly to the interest and value of the publication.

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